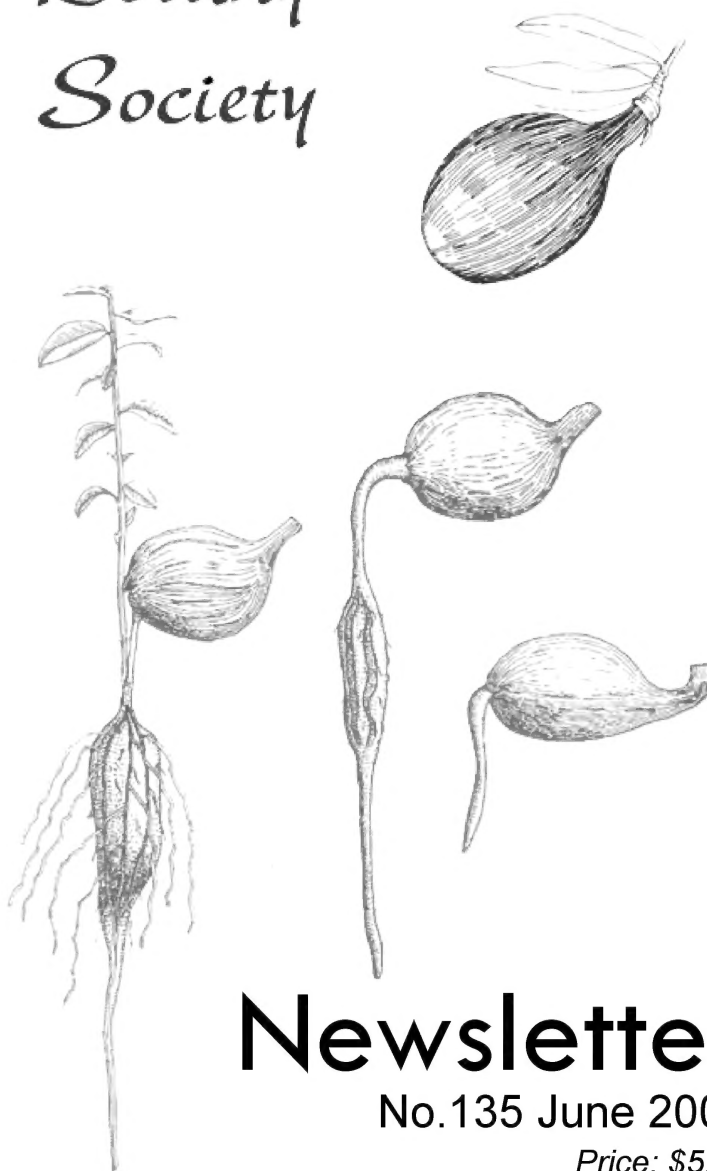


# ASBS

*Australian  
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Botany  
Society*



## Newsletter

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**AUSTRALIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED  
Council**

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John Clarkson  
Centre for Tropical Agriculture  
PO Box 1054  
Mareeba, Queensland 4880  
tel: (07) 4048 4745  
email: john.clarkson@qld.gov.au

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Kirsten Cowley  
Centre for Plant Biodiversity Research  
Australian National Herbarium  
GPO Box 1600, Canberra ACT 2601  
tel: (02) 6246 5024  
email: Kirsten.Cowley@csiro.au

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Parks & Wildlife Commission of the NT  
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Palmerston, NT 0831  
tel.: (08) 8999 4512  
email: Dale.Dixon@nt.gov.au

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Australian Tropical Herbarium  
E2 building, James Cook University Cairns  
Campus  
PO Box 6811, Cairns, Queensland 4870  
tel: (07) 4042 1859  
email: darren.crayn@jcu.edu.au

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Anna Monro  
Centre for Plant Biodiversity Research  
Australian National Herbarium  
GPO Box 1600  
Canberra ACT 2601  
tel: (02) 6246 5472  
email: Anna.Monro@csiro.au

**Councillor**

Marco Duretto  
Tasmanian Herbarium  
Private Bag 4  
Hobart, Tasmania 7001  
tel.: (03) 6226 1806  
email: marco.duretto@tmag.tas.gov.au

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Webmaster: Murray Fagg  
Centre for Plant Biodiversity Research  
Australian National Herbarium  
Email: Murray.Fagg@environment.gov.au

**Loose leaf inclusions with this issue**

- Nominations for ASBS Council
- ASBS Conference 2008 Circular

**Publication dates of previous issue**

**Austral.Syst.Bot.Soc.Nsltr 134 (March 2008 issue)**

Hardcopy: 9<sup>th</sup> May 2008; ASBS Web site: 19<sup>th</sup> May 2008

## From the President

This will probably be my last president's column. By the time the next Newsletter appears I will have served the maximum 6 year term allowed on Council and made way for new blood. Even though I still get a lot of enjoyment out of actively participating in the business of the Society and there are still some things I would like to do, I feel that the Society is wise to have rules which force periodic change in the make up of Council. It is one way of ensuring that Council is constantly being infused with the fresh ideas new members can bring. However, it is also important that there is a degree of overlap in the composition of Council so that there is some continuity in the decision making process and some mechanism for passing on corporate knowledge. I think this balance will be achieved this year. As I write this column nominations for positions on Council have not closed but it would appear that it will be necessary to hold a ballot for some positions. From my memory this will only be the second time such a ballot has been held in the 35 year history of the Society. The previous one was held in 1993. I think competition for positions on Council is one of the signs of a healthy organisation. Posting ballot papers to over 250 members can be an expensive exercise. However, as the rules allow notices such as this to be sent electronically, the ballot papers will be sent to you by e-mail. To ensure the ballot is secret it will be necessary for you to use the postal system to return your vote. If we don't have a record of an e-mail address or we get a message to say the e-mail to you cannot be delivered, we will send your papers by snail mail. Please follow the voting instructions carefully to ensure your vote will be valid.

I have recently had to move out of an office I have occupied for the past 30 years. It is to be

refurbished. About the same time Darren Crayn moved from Sydney to Far North Queensland. While I doubt Darren would have had time to accumulate the amount of stuff I did, we have both come across boxes containing material pertaining to ASBS. This has prompted Council to embark on a project to gather material which might be scattered across the country. We are seeking your help in locating and preparing this material for archiving. If you have anything which might relate to ASBS business please contact Marco Duretto in Hobart. Marco has offered to sort through it before passing it on to The National Herbarium of Victoria (MEL) where it will be archived in the herbarium library. MEL already holds ASBS archival material for the period 1980 to 1992. This includes general correspondence, records of the Society's publications and annual symposia, bank books, some Council minutes and other miscellanea. The Director, David Cantrill, has recently written to the Society offering to continue this association and, on behalf of the Society, I would like to thank him for this kind offer. For a Society like ASBS with its widely dispersed membership I am sure you will appreciate the benefits of lodging material in a single institution.

Robyn Barker tells me that plans for the ASBS conference in Adelaide are going well. Details can be found via the link on the ASBS web site. If past experiences are anything to go by it will be a very interesting conference. This will be the fourth time the Society has met in Adelaide and the South Australians have always put on a good show. I hope to see lots of you in Adelaide.

See you in Adelaide.

John Clarkson

## ASBS Inc. business

### A formal call to file

ASBS turns 35 this year and over the last 35 years there have been numerous Office Bearers and Newsletter Editors, many meetings both Council and AGM, as well as conferences, workshops etc. (see ASBS website). All these people and all these events created documents that minute meetings and record discussions and decisions. In addition the society creates various miscellanea such as bank books, conference brochures etc.

The problem with a Society that has members dispersed across a continent is that files tend to be created in each institution (formally and informally). When a person leaves a position these files and miscellanea may be boxed up

[sometimes forgotten] or forwarded to the person taking over the position. Sometimes files resurface years later when another member of staff of an institution takes on a position in the Society.

Files are the archival record of the Society, the corporate memory, and are a valuable asset for the Society as well as for future researchers. The Council recognises this and is putting in place a more formal process for filing.

What is needed is a single repository for the archives of ASBS. The Royal Botanic Gardens Melbourne (MEL) has kindly offered to be such a repository for ASBS. They already house a few metres of material.

What is needed now is for all past society members (especially past Council Members, editors, conference organisers, &/or the institutions where they worked) to identify what files and miscellanea of the society they have. Next, to get some idea what is out there, notify me what you have. We are not asking you to de-accession any formal institutional files but it may be useful to know what exists.

In the very near future the transfer of these files to MEL will be organised.

Thank you for your support.

Marco Duretto

## New members

Council is pleased to welcome the following new members for 2008 to the Society:

- Mr Matthew Baker, Tasmanian Herbarium, Hobart, Tas.
- Mr Ian Moore, University of New England, Armidale, N.S.W.
- Dr Sheldon Navie, School of Land, Crop & Food Sciences, University of Queensland, St Lucia, Qld.

# Eichler Research Fund Report

## A re-evaluation of the Pterostylidinae (Orchidaceae) and fine-scale genetic diversity of the *Pterostylis longifolia* complex

Jasmine K. Janes

School of Plant Science, University of Tasmania

This project assesses the circumscription of species within the subtribe Pterostylidinae Pfitzer and investigates the fine-scale genetic diversity within the Tasmanian members of the *Pterostylis longifolia* complex (syn. *Bunochilus*).

### Background

The subtribe Pterostylidinae (Orchidaceae) is mainly Australasian in distribution, containing over 200 species, all of which are terrestrial, tuberous geophytes that prefer a seasonal climate and are commonly referred to as greenhoods (Hoffman and Brown 1984, Jones and Clements 2002a). Traditionally, the subtribe Pterostylidinae consisted of one genus, *Pterostylis* R.Br. However, a high degree of morphological variation among species and a lack of infrageneric classification led to a number of informal species complexes being recognised (Dockrill 1992, Jones *et al.* 1999, Jones and Clements 2002a). This situation created identifiable groups, but the identification and ranking of individual species within each group remained challenging.

A recent treatment of the Pterostylidinae conducted by Jones and Clements (2002a, 2002b) combined morphological characters with sequencing of the internal transcribed spacer (ITS) of the nuclear ribosomal DNA. This systematic treatment resulted in the erection of 13 new genera and one hybrid genus (Jones and Clements 2002a, 2002b). The phylogeny showed that subtribe Pterostylidinae formed a monophyletic group illustrating the significance of the sepal position, separating taxa with the deflexed sepal position from taxa having the recurved sepal position (Jones and Clements

2002a). In spite of this, generic ranking was assigned to monophyletic groups supporting the species complexes because of the high degree of sequence and morphological variation between some groups (Jones and Clements 2002b). This approach has been criticized by Hopper and Brown (2004b).

Several of the species complexes comprise morphologically similar, but subtly distinct species and neither taxonomic study has addressed the problem of species delimitation within these species complexes. One such group is the *longifolia* complex, which in Tasmania, consists of four species: *Pterostylis melagramma* D.L. Jones, *P. stenochila* D.L. Jones (endemic), *P. tunstallii* D.L. Jones & M.A. Clements (endangered), and *P. williamsonii* D.L. Jones (endemic). These four species are pollinated by small flies (Northern 1972, Dressler 1981, National Parks and Wildlife Service 2002, Jones and Clements 2002a, Lehnbach *et al.* 2005), exhibit significant overlap in flowering and can often be found in close proximity. It is unclear whether these “species” are reproductively isolated or whether they interbreed freely and are therefore more likely to be morphological variants of the same species.

This study aims to resolve the taxonomic confusion surrounding the Pterostylidinae by increasing the number of species and geographic localities in order to maximize the potential genetic variability that may be detected within the ITS region. In addition, a population level genetic study of the *longifolia* complex using amplified fragment length polymorphisms (AFLP) will provide data on gene flow that will provide an understanding of the reproductive biology and

species delimitations within this group of orchids and may assist with understanding other orchid species complexes.

### Methods and preliminary results

The ITS region has been used extensively in orchids to resolve phylogenetic relationships at infrageneric and species levels in the Orchidaceae (Stanford *et al.* 2000, Clements *et al.* 2002, Jones and Clements 2002a, Tsai *et al.* 2003). In total, 62 samples representing 10 of the 11 new genera occurring within Tasmania were collected and 51 GenBank accessions were obtained including seven outgroup species from the tribes Cranichideae, Diseae, Diurideae and Orchidoideae. Voucher specimens were lodged with the Tasmanian Herbarium.

Preliminary results from parsimony and Bayesian phylogenies support the notion of *Pterostylis* R. Br. in the traditional sense as a monophyletic group with 99 bootstrap percentage support (BP), branch length (BL) 33 and a posterior probability (PP) of 1.00. Several recently erected genera are strongly supported by both analyses, for example *Hymenochilus* (BP 97; PP 1.00) and *Plumatichilos* (BP 100; PP 1.00). In contrast several recent genera are poorly supported with *Diploidium* and *Taurantha* consistently paraphyletic in the analyses. Both analyses reflect the importance of the sepal position suggesting that, if infra-generic divisions of *Pterostylis* R. Br. are required, these should conform to these molecular and morphologically supported characters. Species from the *longifolia* and *parviflora* (syn. *Speculantha*) complexes had identical ITS sequences.

AFLP has been shown to reveal significant variation between closely related species and is highly reproducible (Vos *et al.* 1995; Indsto *et al.* 2005). A minimum of 20 *P. longifolia* complex samples from 20 populations were collected for the AFLP study. The distance between each individual in each population was recorded for use in spatial analyses. Three selective primer combinations (AGA/CAG; AAG/CGG; AGA/CGG) were scored, revealing a total of 247 unambiguous polymorphisms across 231 individuals. Preliminary results indicate that genetic diversity is moderately high ( $F_{st} = 0.1794$ ) among populations of *P. melagramma*, *P. stenochila*, *P. tundtallii* and *P. williamsonii*. Furthermore, species do not cluster into discrete groups in a principal components analysis. Similar results were obtained in a study that investigated the population level genetic diversity in *Ophrys* (Orchidaceae) (Devey *et al.* 2008). Devey *et al.* (2008) concluded that *Ophrys* was potentially an actively evolving group within which several species had hybrid origins. A similar conclusion could be drawn from the results obtained in this study. More research into the mycorrhizal

associations and pollination specificity may assist in determining if these *Pterostylis* species are in fact considered true species or if they are morphological variants of the same species, or members of short-lived hybrid swarms.

### Acknowledgements

I would like to thank the Australian Systematic Botany Society for financial support provided through the Hansjörg Eichler Scientific Research Fund. I am indebted to my supervisors, Assoc. Prof. René Vaillancourt and Dr Dorothy Steane, for their support and guidance. I also thank the staff at the Threatened Species Section, Department of Primary Industries and Water (TAS), Marco Duretto (Tasmanian Herbarium) and Hans Wapstra.

### References

- Clements M, Jones, DL, Sharma, IK, Nightingale, ME, Garratt, MJ, Fitzgerald, KJ, Mackenzie, AM, and Molloy, BPJ (2002) Phylogenetics of Diurideae (Orchidaceae) based on the internal transcribed spacer (ITS) regions of nuclear ribosomal DNA. *Lindleyana* 17, 135-171.
- Devey DS, Bateman, RM, Fay, MF, and Hawkins, JA (2008) Friends or relatives? Phylogenetics and species delimitation in the controversial European orchid genus *Ophrys*. *Annals of Botany* 101, 385-402.
- Dockrill, AW (1992) Australian Indigenous Orchids. NSW, Surrey Beatty and Sons Pty Ltd.
- Dressler RL (1981) 'The Orchids: Natural history and classification.' (Smithsonian Institution: USA)
- Hoffman and Brown N, and Brown, A. (1984) 'Orchids of South-West Australia.' (University of Western Australia Press: Nedlands, Western Australia)
- Hopper SD, and Brown, AP (2004b) Robert Brown's *Caladenia* and *Pterostylis* revisited. *The Orchadian* 14, 366-371.
- Indsto J, Weston, PH, Clements, MA, and Whelan, RJ (2005) Highly sensitive DNA fingerprinting of orchid pollinaria remnants using AFLP. *Australian Systematic Botany* 18, 207-213.
- Jones DL, Wapstra, H, Tonelli, P, and Harris, S (1999) 'The Orchids of Tasmania.' (Melbourne University Press: Melbourne)
- Jones DL, and Clements, MA (2002a) A Reassessment of *Pterostylis* R.Br. (Orchidaceae). *Australian Orchid Research* 4: 1-168
- Jones DL, and Clements, MA (2002b) A new classification of *Pterostylis* R.Br. (Orchidaceae). *Australian Orchid Research* 4: 64-124.
- Lehnebach, CA, Robertson, AW, and Hedderley, D (2005) Pollination studies of four New Zealand terrestrial orchids and the implications for their conservation. *New Zealand Journal of Botany* 43: 467-477.
- National Parks and Wildlife Service (2002) '*Pterostylis gibbosa* (R.Br.) Illawarra Greenhood Orchid Recovery Plan.' NSW National Parks and Wildlife Service, Hurstville.
- Northern, RT (1972) *Pterostylis* and its sensitive gnat trap. *American Orchid Society Bulletin* (September): 801-806.
- Stanford A, Harden, R, and Parks, CR (2000) Phylogeny and biogeography of *Juglans* (Juglandaceae) based on *matK* and ITS sequence data. *American Journal of Botany* 87, 872-882.

Tsai C, Huang, SC, Huang, PL, and Chou, CH (2003) Phylogeny of the genus *Phalaenopsis* (Orchidaceae) with emphasis on the subgenus *Phalaenopsis* based on the sequences of the internal transcribed spacers 1 and 2 of rDNA. *Journal of Horticultural Science and Biotechnology* 78, 879-887.

Vos P, Hogers, R, Bleeker, M, Reijmans, M, van de Lee, T, Hornes, M, Frijters, A, Pot, J, Peleman, J, Kuiper, M, and Zabeau, M (1995) AFLP: a new technique for DNA fingerprinting. *Nucleic Acids Research* 23, 4407-4414.

## Articles

### On the validity of two Mueller names published by Meisner

Kevin R. Thiele and Paul G. Wilson

Western Australian Herbarium, Department of Conservation and Land Management

Meisner (1854) published on a number of taxa following his examination of specimens in the families 'Atherospermeae', 'Thymeleae', Proteaceae, and 'Polygoneae' that had been received from Ferdinand Mueller. In the article Meisner mentioned names that had been applied to the specimens by Mueller, whether they were manuscript names or published names. He appears to have been consistent in his treatment of these names. Where a specimen with a manuscript name appeared to represent a new species he gave it a running number under the genus, cited the name, and provided a description, e.g. as follows for two species of *Pimelea*.

On p. 345:

1. **P. (Malistachys) axiflora** Ferd. Müller!

and on p. 349:

10. **P. (Heterolaena) elata** Ferd. Müll. mss.

The authority for these names should be cited as F.Muell. ex Meisn. or abbreviated to Meisn.

Where Mueller had given an incorrect or an already published name for a taxon that Meisner considered represented a new species he would provide a new name and a description while citing Mueller's incorrect determination in synonymy, as on p. 348:

8. **P. (Heterolaena) stricta** Meisn., n.sp.

citing '*P. angustifolia* F.Müll. mss. (non R.Br.)' in synonymy.

In cases where he considered that the correct name was different to the one ascribed to it by Mueller he would give either the correct name and cite Mueller's suggested or manuscript name in synonymy, or he would give Mueller's manuscript name in bold and indicate the correct name in synonymy, as in the following entry on p. 354 under *Isopogon*:

9. **I. horridus** F. Müll. est *I. ceratophyllus* R.Br. et Meisn. *ibid*.

A similar procedure was followed in cases where the material was vegetative, Meisner then gave Mueller's manuscript name in bold and indicated what he considered was possibly the correct

name. The following two entries apply to this situation.

On p. 353 under *Persoonia* he wrote:

1. **P. pubes** F. Müll. (specimen unicum *Tasmanicum* sine fl. nec fr.) est verisim. *P. juniperinae* forma densius pubescens.<sup>1</sup>

Two years after the *Limnaea* publication, Meisner in A.P. de Candolle (p. 336, 1856) included *P. pubes* in synonymy under *Persoonia juniperina* Labill. as follows:

*P. pubes* Ferd. Müll. mss. (forma densius pubescens).

Meisner thus made it clear that there had been no intention of describing a new species in the earlier *Plantae Muellerianae*. The name *Persoonia pubes* was treated by Arthur Chapman (1991) as a *nomen invalidum*, although he only cited the *Prodromus* entry, presumably not having noted the earlier entry in *Linnaea*; it was omitted from the treatment of *Persoonia* by Peter Weston (1995).

On p. 353 under *Banksia* is a similar entry:

2. **B. prionophylla** Ferd. Müll. (specim. steril.) est verisimiliter *B. littoralis* R.Br., stirps junior, ramulis patenti-pilosis, — absque flore haud certe dignoscenda. Australia felix.<sup>2</sup>

In A.P. de Candolle (1856), two years after the *Limnaea* publication, Meisner, p. 453, included *B. prionophylla* in synonymy under *Banksia littoralis* R.Br. as follows:

'*B. prionophylla* Ferd. Müll. first gen. report, p.17, et in *Linnaea*, 26, p. 353 (in Australia Felici lecta, sed nonnisi specim. sterilibus nobis cognita) nobis huc spectare, auctori vero (in litt. 1855) ad B. Cunninghamii reducenda videtur.'<sup>3</sup>

<sup>1</sup> Translation: (single specimen from Tasmania without flower or fruit) is probably a densely pubescent form of *P. juniperina*.

<sup>2</sup> Translation: (sterile specimen) is probably *B. littoralis* R.Br., a young plant, branchlets spreading-pilose, — without a flower by no means definitely identifiable. Victoria.

<sup>3</sup> Translation: (collected in Victoria but with only sterile specimens known to us) the original author has now in a letter to us (in litt. 1855) evidently referred it to *B. cunninghamii*.

Meisner's description under the name *B. prionophylla* was simply that the branchlets were spreading-pilose, he further indicated that it was probably *B. littoralis* and he unambiguously assigned it to that species in the *Prodromus*. However, the name *Banksia prionophylla* was treated as validly published by Chapman (1991) and by Alex George (1981 & 1999), the latter treating it as a synonym of *B. spinulosa* var. *cunninghamii* (Reichb.) A.S.George.

It should be noted that in neither case did Meisner indicate by the use of an exclamation mark (!) or by writing 'n.sp.' that either he or Mueller was describing a new species:

Article 34.1(a) of the *International Code of Botanical Nomenclature*, J. McNeill et al. (2006) is relevant:

A name is not validly published (a) when it is not accepted by the author in the original publication',

It has the following example:

34.1 Ex.1 (a) "*Sebertia*", proposed by Pierre (ms.) for a monotypic genus, was not validly published by Baillon (1891) because he did not accept the genus. Although he gave a description of it, he referred its only species "*Sebertia acuminata* Pierre (ms.)" to the genus *Sersalisia* R.Br. as *S.? acuminata* which he thereby validly published.

We consider that the names *Persoonia pubes* F.Muell. ex Meisn. and *Banksia prionophylla*

F.Muell. ex Meisn. (Aug. 1854) were not validly published for a similar reason; they were not accepted by Meisner. As is indicated above, this opinion is supported by Meisner's treatment of the names in A.P. de Candolle (1856) where it is clear that he is citing the names as synonyms of *P. juniperina* Labill. and *B. littoralis* R.Br. respectively.

Since we consider that *Banksia prionophylla* Meisn. is not validly published, the name *B. prionophylla* A.R. Mast & K.R. Thiele (2007), a *nom. nov.* for *Dryandra prionotes* A.S. George, is correct under the genus *Banksia*.

## References

- Chapman, A. (1991). Australian Plant Name Index.  
George, A.S. (1981). The genus *Banksia* L.f. (Proteaceae), *Nuytsia* 3: 396.  
George, A.S. (1999). *Banksia*, Flora of Australia 17B: 231.  
Mast, A.R. & Thiele, K.R. (2007). Further recombinations of *Dryandra* into *Banksia*, *Nuytsia* 16: 475.  
Meisner, C.D.F. (1854). *Plantae Muellerianae. Limnaea* 26: 345-363.  
Meisner, C.D.F. (1856). in A.P. de Candolle, *Prodromus Systematis Naturalis Regni Vegetabilis* 14: 336.  
Neill, J. et al. (2006). *International Code of Botanical Nomenclature* (Vienna Code).  
Weston, P. (1995). *Persoonia*, In *Flora of Australia* 16: 50-125.

## Consensus or complacency? A discussion of the proposed new collection sequence at the WA Herbarium

Kelly A. Shepherd

Western Australian Herbarium, Department of Conservation and Land Management

After nearly 40 years of being housed in an architecturally award winning building (who would have thought!), the Western Australian Herbarium (PERTH) collection will soon be moving to a new home. This new WA Herbarium will be contained within the Department of Environment and Conservation Biodiversity Science Centre, which is due for completion in 2009. This move provides an ideal opportunity to update the collection sequence, as it currently follows a modified Engler & Prantl system. As this is no small undertaking, the aim is to start making many of the changes necessary over the months prior to the move. As such, it is essential that we decide on a new sequence as soon as possible and the consensus has been that the collection should reflect a more current phylogenetic classification.

With the timely publication of the 3<sup>rd</sup> Edition of *Mabberley's Plant-Book* (2008), there is now an up-to-date linear system available. In the Appendix, Mabberley states that he follows Kubitzki's (1990-) classification taking into account recent molecular findings summarised in

Angiosperm Phylogeny Group (APG) I (1998) & APG II (2003), along with analyses compiled by Peter F. Stevens on the Angiosperm Phylogeny Website (Stevens 2001-). It has now been proposed that the collection at PERTH should follow this systematic arrangement.

However, before we accept this classification as is, it may be prudent to take a closer look at some of the more controversial groupings, as the consequences of adopting these changes are not insignificant. It also seems worthwhile to bring this discussion to the broader Australian taxonomic community, as many will be facing similar issues. In recent years we have been working towards a national consensus with many decisions being made through the Australian Plant Census forum. Discussion to date has generally focused at the genus and species level and it may now be time to focus on some of the more controversial family groups.

One such example is the proposed synonymisation of *Chenopodiaceae* with *Amaranthaceae* (APG 1 1998). Globally this complex includes

approximately 175/180 genera and 2000/2500 species. At PERTH there are currently 11 genera and 8,188 collections of Amaranthaceae along with 24 genera and 15,505 collections of Chenopodiaceae. If we adopted this proposed merge and made the necessary change to the Western Australian Census it is implicit that we unreservedly accept the science behind this decision. Such a merger would not only result in a major curatorial exercise but would also be a highly visible change for the public, which would then need to flow through to publications, censuses and Floras. However, the issue is that the case for sinking Chenopodiaceae into Amaranthaceae may not be as strong as people suppose and recent studies indicate that things aren't as clear-cut as we may have been led to think.

The APG I (1998) was a significant publication and many accept this and the update (APG II 2003) as definitive. However, I argue that the APG arrangement should not simply be accepted at face value without an assessment of the data on which it is based. The APG did not undertake any centralised, large-scale phylogenetic analyses as a collective. Rather, they compared published phylogenies available at the time and then produced a summary classification. On going back through the original data from the references cited in APG I (1998) and the analyses relevant to this particular discussion, it is apparent that only one or two representatives from each family were included. For example, in the nDNA analyses only *Chenopodium album* (Chenopodiaceae) and *Amaranthus retroflexus* (Amaranthaceae) (Hershkovitz & Zimmer 1997) and alternatively *Spinacia oleracea* (Chenopodiaceae) (Soltis *et al.* 1997) were included. In the cpDNA analyses, only *Amaranthus hypochondriacus* (Amaranthaceae) and *Spinacia oleracea* (Chenopodiaceae) were included (with no vouchers given) (Chase *et al.* 1993). Clearly, this does not represent adequate sampling to address the question of monophyly of either family. Despite this, APG proposed the merge, presumably reflecting their perceived but unsubstantiated belief in the paraphyly of Chenopodiaceae.

In a slightly larger study by Downie & Palmer (1994) (not cited in APG I), both *Alternanthera dentata* and *Celosia argentea* (Amaranthaceae) were sampled along with *Atriplex hastata*, *Beta vulgaris*, *Chenopodium murale*, *Kochia sp.* and *Spinacia oleracea* (Chenopodiaceae) (again no vouchers for these 5 specimens!). This study found that "All three examined members of Chenopodiaceae possess a 300-bp deletion in their cpDNA IR's; no such deletion is apparent in Amaranthaceae cpDNA. The possibility that Amaranthaceae may be nested within a paraphyletic Chenopodiaceae has been

postulated by Rodman (1990) and illustrated by Carolin (1983). These molecular data, however, provide no evidence for paraphyly of the Chenopodiaceae." This reference, which supports a monophyletic Chenopodiaceae, was not cited in APG I (1998) even though it appears to be one of the largest studies available at the time.

APG II (2003) states that "Relationships and taxonomy of the other major clade of Caryophyllales [i.e. that which includes Amaranthaceae *s.l.*] remain as they were in APG (1998). Although additional genera and new data have been added, no new patterns for general relationships have emerged (Cuénoud *et al.* 2002)."

The references cited in APG II (2003) include larger analyses which used combined nDNA and cpDNA regions. Soltis *et al.* (2000) combined 18S, *rbcL* and *atpB* and included only *Celosia argentea* (Amaranthaceae) and *Spinacia oleracea* (Chenopodiaceae) (again with no vouchers). A larger study by Downie *et al.* (1997) including 18 species of Chenopodiaceae and 7 species of Amaranthaceae found that the four species in the genus *Amaranthus* were nested within Chenopodiaceae. However, in a subsequent larger study by Cuénoud *et al.* (2002), including representatives from 21 genera, it was shown that *Amaranthus* positioned within a well supported (97%) Amaranthaceae *s.s.*

Peter F. Stevens summarises more recent studies on the Angiosperm Phylogeny Website (Stevens 2001–) suggesting there are conflicting results "Cuénoud *et al.* (2002) found Amaranthaceae *s.str.* to be monophyletic, with very strong (97%) support, and Chenopodiaceae *s.str.* were perhaps monophyletic, but the branch collapsed in strict consensus tree; the sampling was moderately good, but only one gene – *matK* – was sequenced and analysed." He then goes on to say "In an extensive *rbcL* analysis, much of the old Chenopodiaceae were monophyletic, but with little bootstrap support, ditto the old Amaranthaceae (incl. Polycnemoideae), Betoideae were paraphyletic (G. Kadereit *et al.* 2003)... Other studies suggest paraphyly of Chenopodiaceae and sometimes even potential polyphyly of Amaranthaceae (Pratt *et al.* 2001). In a recent analysis of *matK*/*trnK* sequences, Müller and Borsch (2005b; see also Müller & Borsch 2005c), *Polycnemonum* and *Nitrophila* (100% support) were sister to the rest... The rest of the Amaranthaceae + Chenopodiaceae had <70% support (and still lower posterior probabilities), while the Amaranthaceae *s.str.* had 100% support and the Chenopodiaceae *s.str.* again <70% support, but this time 100% posterior probabilities."



In summary, APG I and II

- did not include all the data from relevant studies at the time
- are based on limited species with vouchers often not available or not provided
- used studies of few gene regions and were predominantly cpDNA regions (more slowly evolving)

It should be noted that major molecular phylogenetic studies on both the Chenopodiaceae and Amaranthaceae in the last few years (Kadereit *et al.* 2003; Kadereit *et al.* 2005; Müller & Borsch 2005; Kapralov 2006; Akhani 2007), have not accepted the proposed change – even though it has been nearly 10 years since APG I was published. Müller & Borsch (2005) give a good summary of these papers and like Peter Stevens, they highlight conflicting results. Their own analysis of the Amaranthaceae concluded that “previous studies with a more extensive sampling agree with this study on the non-monophyly of Chenopodiaceae as currently classified, though without convincing support. However, whether two monophyletic families, Chenopodiaceae and Amaranthaceae can be maintained by either shifting Polycnemoideae to Amaranthaceae or treating them as independent families, needs further study.”

Kadereit *et al.* (2003) included 108 species in their cpDNA study of the Chenopodiaceae and while they still found support for major groups, they stated that the “relationship between Chenopodiaceae and Amaranthaceae remains unclear” and in their 2005 paper they simply state “molecular data used to resolve the relationship of both families so far are conflicting.”

I recently contacted both Peter Stevens and David Mabberley to clarify their opinion on this specific issue. Peter Stevens indicated that there had been no definitive study on the group and that it could be conceivable that both Amaranthaceae and Chenopodiaceae could be recognised. David Mabberley referred my correspondence to Mark Chase who clarified the general philosophy behind the APG. Their aim was to reduce the overall number of families and in this particular case “since it is so difficult to prove they (particularly Chenopodiaceae *s.s.*) are distinct, it is better to lump them, regardless of whether in the end we find them to form two clades” (Chase pers. comm.).

What do we actually gain by taking this approach? It could be suggested that since there is a close relationship between Amaranthaceae and Chenopodiaceae, adopting a broader concept is a more stable outcome. However, is it truly stable? By adopting Amaranthaceae *s.l.* are we also stifling research? As Surrey Jacobs so aptly put it when I contacted him about this “...if there are

discontinuities then we need to make that clear, and that is best done in a classification system. I do not think it is appropriate to handicap the advancement of scientific knowledge because some people may not readily understand everything.” It is evident that further work is being done at this level on the complex as there are researchers currently active in Australia, Germany, Russia, Iran and United States. With wider sampling and sequencing of new gene regions and with the potential recircumscription of basal groups, Chenopodiaceae may well be supported as distinct from Amaranthaceae. Thus, if we make the change now, will we soon need to change it back? If however, the results do show that Amaranthaceae is unequivocally nested within Chenopodiaceae (based on more than a handful of sequences as was originally done) then we can make the merge knowing there is much less likelihood of the situation changing in the near to mid-term.

Surely it is more important that taxonomic groups, at whatever level, convey useful diagnostic information about the collective (as this is the basis for grouping things under specific ‘names’ in the first place), than trying to make things more superficially convenient. We are perhaps in danger of losing a great deal of information by lumping larger and larger groups together in the name of making things simpler. In each instance the circumscription for the group also needs to become successively broader. Thus, while these combinations may mean fewer family names on a summary list, it doesn’t change the breadth of diversity contained therein.

Many Herbaria may be adopting the APG or Mabberley system but is that consensus or complacency? Is it occurring because they do not have anyone specifically arguing for any alternative? While the idea of following a single reference is seductive in that it is an opportunity for applying a unified approach across institutions, how practical is this? Research is ongoing and therefore both APG II and Mabberley’s list are effectively already out of date.

There are other examples like the Amaranthaceae/Chenopodiaceae case and debate needs to continue within our taxonomic community. As Surrey Jacobs said “... [I would like to] see some more convincing data. So far there are several equally possible solutions with no indication of which is preferred, mainly because of inadequate sampling.” Surely it is prudent to take the precautionary principle. If there is inadequate information or counter evidence we should not make changes for the sake of it. We should allow for a ‘Modified Mabberley’ rather than slavishly following a system that may not bear up to closer scrutiny in the near future.

## References

- Akhani, H., Edwards, G. & Roalson, E.H. (2007). Diversification of the old world *Salsola* s.l. (Chenopodiaceae): molecular phylogenetic analysis of nuclear and chloroplast data sets and a revised classification. *International Journal of Plant Sciences* 168: 931–956.
- APG I (Angiosperm Phylogeny Group) (1998). An ordinal classification for the families of flowering plants. *Annals of the Missouri Botanical Garden* 85: 531–553.
- APG II (Angiosperm Phylogeny Group) (2003). An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants. *Botanical Journal of the Linnean Society* 141: 399–436.
- Chase, M.W., Soltis, D.E., Olmstead, R.G., Morgan, D., Les, D.H., Mishler, B.D., Duvall, M.R., Price, R.A., Hills, H.C., Qiu, Y.-L., Kron, K.A., Rettig, J.H., Conti, E., Palmer, J.D., Manhart, J.R., Sytsma, K.J., Michaels, H.J., Kress, W.J., Karol, K.G., Clark, W.D., Hedr, n, M., Gaut, B.S., Jansen, R.K., Kim, K.J., Wimpee, C.F., Smith, J.F., Furnier, G.R., Strauss, S.H., Xiang, Q.Y., Plunkett, G.M., Soltis, P.S., Swensen, S.M., Williams, S.E., Gadek, P.A., Quinn, C.J., Eguiarte, L.E., Golenberg, E., Learn, G.H., Graham, S.W., Barrett, S.C.H., Dayanandan, S. & Albert, V.A. (1993). Phylogenetics of seed plants: an analysis of nucleotide-sequences from the plastid gene *rbcl*. *Annals of the Missouri Botanical Garden* 80: 528–580.
- Cuénoud, P., Savolainen, V., Chatrou, L.W., Powell, M., Grayer, R.J. & Chase, M.W. (2002). Molecular phylogenetics of Caryophyllales based on nuclear 18S rDNA and plastid *rbcl*, *atpB*, and *matK* DNA sequences. *American Journal of Botany* 89: 132–144.
- Downie, S.R. & Palmer, J.D. (1994). A Chloroplast DNA Phylogeny of the Caryophyllales Based on Structural and Inverted Repeat Restriction Site Variation. *Systematic Botany* 19: 236–252.
- Downie, S.R., Katz-Downie, D.S., Cho, K.-J. (1997). Relationships in the Caryophyllales as Suggested by Phylogenetic Analyses of Partial Chloroplast DNA ORF2280 Homolog Sequences. *American Journal of Botany* 84: 253–273.
- Hershkovitz, M.A. & Zimmer, E.A. (1997). On the evolutionary origins of the cacti. *Taxon* 46: 217–232.
- Kadereit, G., Borsch T., Weising, K., & Freitag, H. (2003). Phylogeny of Amaranthaceae and Chenopodiaceae and the evolution of C<sub>4</sub> photosynthesis. *International Journal of Plant Sciences* 164: 959–986.
- Kadereit, G., Gotzek, D., Jacobs, S. & Freitag, H. (2005). Origin and age of Australian Chenopodiaceae. *Organisms, Diversity & Evolution* 5: 59–80.
- Kapralov, M.V., Akhani, H., Voznesenskaya, E.V., Edwards, G., Franceschi, V., Roalson, E.H. (2006). Phylogenetic Relationships in the Salicornioideae / Suaedoideae / Salsoloideae s.l. (Chenopodiaceae) Clade and a Clarification of the Phylogenetic Position of *Bienertia* and *Alexandra* Using Multiple DNA Sequence Datasets. *Systematic Botany* 31: 571–585.
- Mabberley, D.J. (2008). *Mabberley's Plant-Book : a portable dictionary of plants, their classification and uses*. Edn. 3. Cambridge University Press, Cambridge.
- Müller, K., & Borsch, T. (2005). Phylogenetics of Amaranthaceae based on *matK/trnK* sequence data – evidence from parsimony, likelihood, and Bayesian analyses. *Annals of the Missouri Botanical Garden* 92: 66–102.
- Soltis, D.E., Soltis, P.S., Nickrent, D.L., Johnson, L.A., Hahn, W.J., Hoot, S.B., Sweere, J.A., Kuzoff, R.K., Kron, K.A., Chase, M.W., Swensen, S.M., Zimmer, E.A., Chaw, S.-M., Gillespie, L.J., Kress, W.J., & Sytsma, K.J. (1997). Angiosperm phylogeny inferred from 18S ribosomal DNA sequences. *Annals of the Missouri Botanical Garden* 84: 1–49.
- Soltis, D.E., Mort, M.E., Soltis, P.S., Albach, D.C., Zanis, M., Savolainen, V., Hahn, W.H., Hoot, S.B., Fay, M.F., Axtell, M., Swensen, S.M., Price, L.M., Kress, W.J., Nixon, K.C., & Farris, J.S. (2000). Angiosperm phylogeny inferred from 18S rDNA, *rbcl*, and *atpB* sequences. *Botanical Journal of the Linnean Society* 133: 381–461.
- Stevens, P.F. (2001 onwards). Angiosperm Phylogeny Website. Version 9, June 2008 [and more or less continuously updated since]. <http://www.mobot.org/MOBOT/research/APweb/>.

## Obituaries

Vale Lorraine Cobb  
April 12<sup>th</sup> 1951 – April 5<sup>th</sup> 2008  
Kelly Shepherd and Ryonen Butcher  
Western Australian Herbarium

Lorraine (Lori) Cobb passed away on the 5<sup>th</sup> April 2008 after a courageous battle against pancreatic cancer. Lori was a talented and passionate botanist and botanical artist, who made a significant contribution to the education of many science students in Western Australia. She was also an eminently capable identification botanist who was always willing to share her knowledge of Western Australia's diverse flora.

Many will be aware of Lorraine's work as a skilled botanical artist (see Publication list). She initially provided many of the illustrations for the revision of Part 2 of Blackall and Grieve's *How to Know Western Australian Wildflowers*

and later produced detailed line drawings for many taxonomic papers published in *Nuytsia* and *Australian Systematic Botany*. The most notable of these are the meticulous drawings included with the descriptions of new species in the tribe Lasiopetaleae (Malvaceae s.l.) by Carol Wilkins and more recently in the late Jenny Chappill's extensive revisions of *Jacksonia* and *Gompholobium*. Sadly, Jenny did not see either of these treatments published (their completion only made possible by Carol Wilkins) and Lori herself passed away prior to the publication of *Gompholobium*. Additional illustrations of Lori's will appear posthumously in the forthcoming revisions of *Lasiopetalum* and *Thomasia*.

Lori is survived by her loving husband Noel and her two sons Matthew and Adam. She will be sadly missed by many at the Western Australian Herbarium and the broader botanical community.

**Eulogy by Kelly Shepherd, 12<sup>th</sup> April 2008**

I would like to tell you all a little about our memories of Lori on behalf of the group of women referred to in some circles as the 'Herbarium Harem'. We are a close group of friends that came together as students, and later as staff working with the late Jenny Chappill, in the small herbarium on the top floor of the old Botany Department building at The University of Western Australia.

I actually met Lori as an undergrad at UWA over 19 years ago when she returned to study part-time following the birth of her two boys Matt and Adam. In view of her passion for plants, Lori decided to do a double major in Botany and Biochemistry with some Molecular Biology thrown in for good measure.

My earliest memories of Lori are of her sitting in the front row of a Botany 200 Lecture sandwiched between Darren Baumgarten and Pat Wenham and she was *always* asking questions. Actually that is my second memory – the first is of her snapping her head around to glare and aggressively “shush” me as I was daring to talk to Mike Craig during a lecture. I was actually a bit scared of her at first. As Mike recalls “I have memories of Lori being very passionate about what she did. She always worked hard in labs and was happy to help everyone else there as well. Mature age students were often a bit intimidating but Lori wasn't and through her helping us in our study, we all realized what a lovely person she was.” That pretty much sums up how Lori was. For as long as we have known her she was always willing to share her amazing knowledge with others.

Juliet Wege also remembers Lori's unbridled interest when she met her during Jenny Chappill's first Land Plant Diversity course. And this is where Lori's true passion was. Throughout her degree Lori also worked part-time with Margaret Lewington and later Jenny Chappill on revising Blackall and Grieve's famous *How to Know Western Australian Wildflowers*, producing illustrations and constructing keys. After graduating, Lori continued with this and also worked as a Lab demonstrator helping Jenny teach the students about the bewildering diversity of plants in WA. Lori had an amazing work ethic and was a natural teacher; patient but also firm. Ryonen Butcher, who also helped in the labs, recalls “students would actually wait until Lori was free before putting their hand up to ask a question. They always wanted her to help them



Photo supplied by Cobb family

because she was so approachable, explained things so well, and never made them feel stupid for asking a stupid question”. But woe betide the student who just wanted to be given the answer without thinking for themselves! Lori had little patience for slackers and airheads. With her quick and merciless wit she once nicknamed a student “the empty vessel” because they made so much noise for so little output. But she was a soft touch and on student field trips would collect specimens from difficult to identify groups and then offer them clandestinely to overwhelmed students when Jenny wasn't watching... “Hey... Psssst... do you need a graminoid monocot?” “How about a Poaceae?”

Lori then went on to be the First Year co-ordinator at UWA working closely with Bill Loneragan and Hai Ngo. After leaving UWA, she began working as a botanical consultant with Libby Mattiske and her team in 2001. In usual fashion Lori took a lot of the new graduates under her wing, teaching them how to collect and identify specimens properly. Even in her last months Lori would still be helping people identify specimens when she came to the WA Reference Herbarium. She was always positive and there to give advice

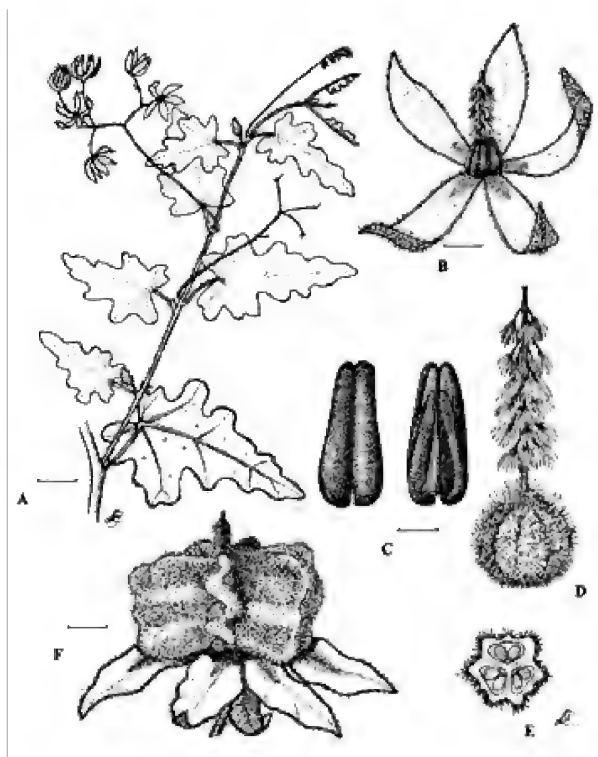


Fig. A line drawing by Lorraine Cobb of *Lasiopetalum pterocarpum*. From: Shepherd, K.A., Bennett, E.M., Wilkins, C.F. & Sage, L.W. (2006). *Lasiopetalum pterocarpum* (Malvaceae s.l.: Lasiopetaleae), a new and rare species from south-

– offering simple solutions for complex problems about life as well as botanical conundrums!

As many of you know Lori was an intelligent and strong woman who was forthright and outspoken and the words ‘brutal’ and ‘honesty’ may come to mind. We soon learned that Lori basically loved to argue a point and the more wine involved the more passionate the discussion. Kris Lemson, who was Jenny’s first PhD student, recalls this better than most. It all came to a head one memorable night at a dinner at Jenny’s house which Juliet Wege still recalls with widening eyes... Kris summed it up by saying “we had a real wing-dinger of a ‘discussion’ – forceful and loud. For me, that evening was one of the highlights of our friendship. It really opened Lori up for me, and we were much firmer friends afterwards. Although we certainly did not see eye to eye on some things, I really loved the fact that Lori would say it how she saw it and stick by her opinions, always backed by a very cogent argument. In the same way she would be steadfast towards her friends – loyal and honest.”

In contrast to this honesty we know Lori could outright lie – usually to make you feel better. Besides being an amazing ID botanist Lori was an outstanding botanical artist. For some years Carol Wilkins, Eleanor Bennett and I were working on a large revision together and Lori was doing the illustrations. Frequently I would gather together our notes and our frankly awful line drawings and sheepishly give them to Lori thinking how stunning her pictures would be in return. I remember one day she looked at them and said with all the sincerity she could muster “they’re getting better you know!” Carol was often amazed that she would see features on Lori’s drawings she hadn’t even noticed on the plant herself! Carol would go back to the specimens muttering in quiet disbelief and low and behold – there it would be. Lori was always humble about her excellence and I’m sure many of the other botanists here today would also look at the drawings Lori produced for their own publications with the same sense of wonder. The incredible detail and botanical accuracy of the art work was always impressive.

In fact ‘impressive’ is a great way to sum up Lori. She was an intelligent and strong woman who was fierce and loyal... but about as tough as butter on a hot summer’s day. Her sense of humour, which was too often wickedly inappropriate, has brought considerable joy. She was supportive and encouraging to all those around her, giving her forthright opinion directly from her heart.

As Kris said and I’m sure you can all relate “Lori had a busy and full life, and our opportunities to see each other over the last 3 years were sporadic. Nevertheless, she would greet me as if it was only yesterday that we had seen each other, and pick up the threads of where we left off without a hitch.”

She will be greatly missed and I know I will always think of her with hands on hips with a big cheeky smile or maybe with her cats about her ankles, a wine in hand pointing out some plant in her beloved garden.

#### Publications that include Lorraine’s illustrations

- Butcher, R. (2001). *Sphaerolobium benetectum* (Leguminosae: Mirbeliaceae), a new species from south-west Western Australia. *Nuytsia* 13(3): 449–455.
- Butcher, R. & Chappill, J.A. (2001). *Sphaerolobium macranthum* (Leguminosae: Mirbeliaceae) complex revised. *Australian Systematic Botany* 14(2): 155–173.

- Butcher, R. & Chappill, J.A. (2004). A revision of the *Sphaerolobium fornicatum* complex (Leguminosae: Mirbelieae) from south-west Western Australia. *Australian Systematic Botany* 17(5): 423–439.
- Chappill, J.A., Wilkins, C.F. & Crisp, M.D. (2007). Taxonomic revision of *Jacksonia* (Leguminosae: Mirbelieae). *Australian Systematic Botany* 20(6): 473–623.
- Chappill, J.A., Wilkins, C.F. & Crisp, M.D. (2008). Taxonomic revision of *Gompholobium* (Leguminosae: Mirbelieae). *Australian Systematic Botany* 21(2): 67–151.
- Davis, R.W. (2004). Two new species of *Ptilotus* (Amaranthaceae) from Western Australia. *Nuytsia* 15(2): 221–226.
- Davis, R.W. (2007). A rare and geographically restricted new *Ptilotus* (Amaranthaceae) from the Pilbara Bioregion of Western Australia. *Nuytsia* 16(2): 265–268.
- Grieve, B.J. & Blackall, W.E. (1998). *How to know Western Australian wildflowers: a key to the flora of the extratropical regions of Western Australia. Part 2. Dicotyledons (Amaranthaceae to Lythraceae)*. University of Western Australia Press, Nedlands, Perth.
- Hislop, M. (2007). A new species and a new combination in *Acrotriche* (Ericaceae: Styphelioideae: Styphelieae), with keys to the Western Australian members of the genus and its closest relative *Lissanthe*. *Nuytsia* 16(2): 285–297.
- Rye, B.L. (2006). A partial revision of the south-western Australian species of *Micromyrtus* (Myrtaceae: Chamelaucieae). *Nuytsia* 16(1): 117–147.
- Rye, B.L. & Trudgen, M.E. (in prep). *Seorsus*, a new genus of *Myrtaceae* from northern and south-western Australia and Borneo.
- Shepherd, K.A. (2007). *Tecticornia bibenda* (Chenopodiaceae: Salicornioideae), a new C4 samphire from the Little Sandy Desert, Western Australia. *Nuytsia* 16(2): 383–391.
- Shepherd, K.A., Bennett, E.M., Wilkins, C.F. & Sage, L.W. (2006). *Lasiopetalum pterocarpum* (Malvaceae s.l.: Lasiopetaleae), a new and rare species from south-west Western Australia. *Nuytsia* 16(1): 175–181.
- Wheeler, J.R., Marchant, N.G., Lewington, M. & Graham, L. (2002). *Flora of the south west: Bunbury - Augusta - Denmark. Volume 1: Introduction, keys, ferns to monocotyledons*. ABRIS and W.A. Herbarium in association with UWA Press, Canberra.
- Wheeler, J.R., Marchant, N.G., Lewington, M., Graham, L. (2002). *Flora of the south west: Bunbury - Augusta - Denmark. Volume 2: Dicotyledons*. ABRIS and W.A. Herbarium in association with UWA Press, Canberra.
- Wilkins, C.F. (1999). *Keraudrenia exastia* and *Keraudrenia katatona* (Malvaceae: Byttnerioideae) new species from the Kimberley region of Western Australia. *Nuytsia* 13: 233–242.
- Wilkins, C.F. & Chappill, J.A. (2001). Taxonomic revision of *Hannafordia* (Lasiopetaleae: Sterculiaceae (Malvaceae s.l.)). *Australian Systematic Botany* 14(1): 101–124.
- Wilkins, C.F. & Chappill, J.A. (2001a). A taxonomic revision of the Western Australian genus *Lysiosepalum* (Malvaceae: Lasiopetaleae). *Nuytsia* 13: 571–594.
- Wilkins, C.F. & Chappill, J.A. (2002). Seed and seedling morphology and seed anatomy of Lasiopetaleae (Malvaceae s.l. or Sterculiaceae). *Australian Systematic Botany* 15: 545–563.
- Wilkins, C.F. & Chappill, J.A. (2003). Taxonomic revision of *Guichenotia* (Lasiopetaleae: Malvaceae s.l. or Sterculiaceae). *Australian Systematic Botany* 16(3): 323–360.

## Edgar Dell November 28<sup>th</sup> 1901 – April 18<sup>th</sup> 2008

Greg Keighery

Department of Environment and Conservation, Woodvale, WA

Edgar Dell passed away on April 18, 2008, aged 106. His funeral was attended by many of the state's older generation of botanists, naturalists and zoologists (and also many younger biologists).

While Edgar Dell is not well known in or outside the state, his watercolours of Western Australian wildflowers are a feature of the best known book on WA wildflowers – *West Australian Wildflowers* by C.A. Gardner. He was, probably technically and artistically, one of, if not the best gouache watercolourist of Western Australian wildflowers. With Edgar's passing one of the last links to the early history of botany in the state of Western Australia has gone.

Edgar grew up in England and was from a family of prominent nurserymen. After World War I, Edgar became an assistant draftsman and attended paid night classes in drawing. In order to further his art career, Edgar travelled to Canada and worked on a wheat farm in the prairies, for a summer and autumn, before returning to London and attending another year of night schooling.

In 1927 he saw an advertisement for workers in Western Australia. After he had arranged to emigrate he was offered a position as artist with Curtis's *Botanical Magazine*. However, as he was already committed, he declined the position.

Edgar worked on orchards and settled on a farm in Kalamunda, and in the ensuing depression he experienced tough times, taking any work available. During this period Edgar was commissioned by the *Western Mail* to produce a series of plates of Western Australian wildflowers to be included as colour supplements to this 'farmer's' weekly. From 1933 to 1935 130 plates were included in the *Western Mail*. These were accompanied by a series on the animals of Perth Zoo. Readers avidly collected the plates. One of these readers was my mother, then a girl on a farm at Kojonup, who used the plates to identify flowers on her farm. I was given this set as a child, when I showed interest in flowers.

WA Newspapers published a full set of these plates in book form in 1935. Around the same time 94 of the plates (plus 16 colour photos taken by Staff photographers) were included in the

book *West Australian Wildflowers* with text by C.A. Gardner. Seven editions of this book were produced between 1936 and 1951. In 1959 after a complete make-over and a size reduction to A5 instead of quarto, the title changed to *Wildflowers of Western Australia*. While the number of Edgar's plates used varied over the years the last, and twentieth edition in 1997, included 13

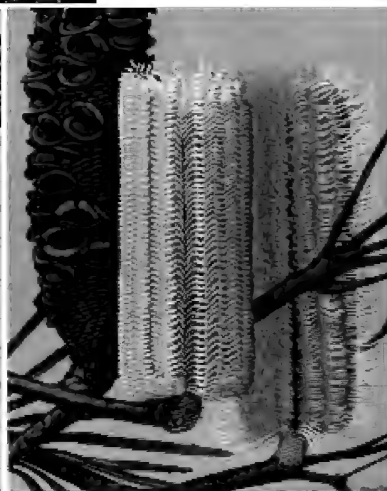
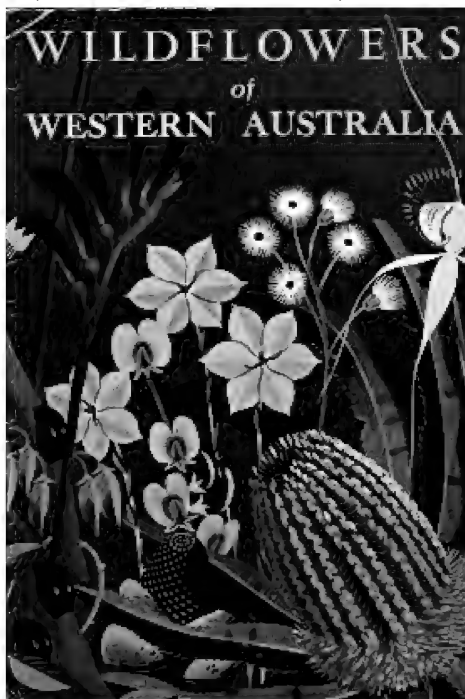


Fig. 1. Gardner's *Wildflowers of Western Australia* featured the artwork of Edgar Dell.

of his plates. This field guide, continuously in print from 1935 to 1997, introduced generations of locals and visitors to Western Australia's wonderful wildflowers at least partly through Edgar's precise and beautiful paintings.

Interestingly, copies of these guides to Western Australia's wildflowers from 1950 to 1960, suitably boxed and bound, were presented by the Government of Western Australia, City of Perth and associated dignitaries to distinguished visitors. I have acquired three, including one from the US which the bookseller noted "was a presentation copy to a Mrs Holt signed by various people (in fact most of the senior parliamentary members of the Victorian Liberal Party)". How fantastic that a wildflower guide be considered the best advertisement for Australia and would be a treasured gift.

Edgar also produced 39 paintings for *Poison Plants of Western Australia* by C.A. Gardner, published in soft cover in 1937. These plates were incorporated in the much larger book published in 1956 by Gardner and Bennetts. Anecdotal evidence notes that the Western Australian government also commissioned paintings as gifts to visiting dignitaries.

There has been no retrospective of the work of this major Western Australian artist. Only one painting and no biogeographical detail of Edgar were featured in the Western Australian Art Gallery retrospective exhibition *Wildflowers in Art* in 1991 (Gooding, 1991). Sadly no complete catalogue of his work exists and the status and location of even the 167 known works are vague (although 80, those used in the 1959 edition, remain with *The*

*West Australian Newspapers*: J. Dell pers. comm.). This is an artist who should be better recognised and well represented in the State collections!

## References

- Anon. (1935). *Flowers of Western Australia*. (from water colours by Edgar Dell... Descriptions by C.A. Gardner). Western Australian Newspapers, Perth.
- Anon. (1937). *Poison Plants of Western Australia* (from water colours by Edgar Dell... Descriptions by C.A. Gardner). Western Australian Newspapers, Perth.

Gardner, C.A. (1936). *Wildflowers of Western Australia*. Western Australian Newspapers, Perth.

Gardner, C.A. & Bennetts, H.W. (1956). *The Toxic Plants of Western Australia*. Western Australian Newspapers, Perth.

Gooding, J. (1991). *Wildflowers in Art: artists' impressions of Western Australian wildflowers 1699–1991*. Art Gallery of Western Australia.

## Eulogy for Ludwik Dutkiewicz 2<sup>nd</sup> February 1921 – 30<sup>th</sup> April 2008

**Adam Dutkiewicz**  
Kensington Park South Australia

Ludwik Dutkiewicz was born in a blizzard deep into winter at Stara Sol, outside Lwow, Poland, in 1921. After an idyllic life as a child and unspeakably traumatic experiences during the war, he and one of his older brothers, Wladyslaw, found their way to a Displaced Persons' camp in Bavaria, where they stayed for four years, working in a touring theatrical troupe and in administration.

He migrated to Australia in 1949 and settled in Adelaide. In 1951 he held a joint exhibition with Wladyslaw at the Royal South Australian Society of Arts, after which he was elected Fellow. In 1953 he was awarded the Cornell Prize at the Contemporary Art Society and won it again in 1954.

He was one of several of South Australia's most progressive artists of the era featured in the film *Painting 1950–1955 South Australia*. He exhibited with a selected group in London in 1954, and was a member of the Adelaide Group, which showed work in Adelaide, Sydney and Melbourne until 1957. He was Vice-President or committee member of the CAS from 1954–58, and lectured for several years at the South Australian School of Art.

When Ludwik arrived in Australia he was an expressionist painter, but soon became a committed abstractionist. At that time there was almost no abstract art here, and certainly none in Adelaide: indeed, he and his brother pioneered that territory in South Australia. The brothers were attracted to this area as a reaction against the kind of art promulgated by the Nazis in Western Europe and Stalinists in the Eastern Block. They also believed fine art should be imaginative and should free itself of tired and clichéd, representational forms; and that it had evolved in modern times to expand beyond illustration of people and their environment.

Ludwik joined the staff of the Botanic Gardens on 19 February 1953 as a botanical illustrator. His work in this field was published in many journals and books, and has received international recognition. During his final years in the Botanic Gardens and State Herbarium, he concentrated on line drawings and his work features extensively in the early volumes of the *Journal of the Adelaide Botanic Garden*, the

fourth edition of *The Flora of South Australia* by J.P. Jessop and H. Toelken and, in his year of retirement, *Flowering Plants in Australia* by B. Morley and H. Toelken.

In the early 1960s he was a performer and costume and make-up designer for his brother's theatrical troupe, the Art Studio Players, which performed a number of Australian premieres and explored The Method on Adelaide stages. From 1964, Ludwik shifted much of his creative energy into film, inspired by the filmic theories of Sergei Eisenstein. He directed *Transfiguration*, which featured the music of Anton Bruckner and was featured in the Sixth Adelaide Film Festival; it received an AFI award for Best Black and White Photography and is in the collection of the Museum of Modern Art in New York. He made two other films in the mid-late 1960s with Ian Davidson: *Reflections* and *Time in Summer*. Both were black and white, the latter a feature film that was selected for presentation at the Berlin Film Festival.

Ludwik's artistic output involved a remarkable dichotomy between the mostly expressionist and abstract paintings, extending over forty years and executed in his private time, and the accomplished botanical illustrations undertaken as a public servant.

In his personal life Ludwik became more and more reclusive as he got older. I was fortunate to share my life with him over the last fourteen years. It was a journey through which Ludwik taught me to relax, to look after myself, and to enjoy some of the good things in life after a frugally spent youth. It became a long conversation, a mixture of nostalgia, history, art, cosmology and philosophy. I learnt much about his early family life in Poland and experiences during the war and about the years before I was a fully formed, observant consciousness.

Ludwik's generosity enabled me to pursue what I thought was important in my own life – I was able to complete under a scholarship my PhD on art, dedicated to the post-war migrant artists, which I believe was the definitive study of dozens of artists who should be regarded as significant in Australia but who, in the main, have been marginalised.

Shortly thereafter a new chapter in his life began when he discovered he had a son, Michael, whose





Fig. Two styles of art occupied Ludwik Dutkiewicz's time at the Botanic Gardens and State Herbarium, Adelaide. His botanical line drawings were published, but his water colours received limited display and so far have never been published.

a. *Prasophyllum goldsackii* in *Journal Adelaide Botanic Gardens* 1 (1978) 167, fig. 1.

b. *Billbergia zebrina*, painted in water colour in the mid 1950s, in the Botanic Gardens & State Herbarium collection.

family entered his life and brought with them different perspectives, joys and achievements. It was wonderful to hear Ludwik and Michael enjoying each other's company, and he loved to be informed of their problems and successes, and became very proud of him and his granddaughter.

Ludwik was worried about the state of the world, about the wars in the Middle East, terrorism, about the collapse of the environment under global warming, and the terrible abuse of the River Murray. He was also appalled by most of the art he saw in modern times, and disapproved of its jettisoning of beauty and the technique required in classical forms.

I had some wonderful times with him, meals and parties of outstanding celebration and fun. When I was younger, before I moved in with him, he often sent me home quite drunk. From the time of his retirement, in 1983, I had reconnected with him and visited him regularly. I often took my friends and girlfriends with me, and we all had a wonderful time playing snooker, eating and drinking and telling stories and jokes.

Even as a tiny boy I connected especially well with him, often laughing so much I would have an asthma attack. He brought enormous fun and joy into my life; later on, especially in the last few

years there was less fun, more serious discussion and contemplation. Looking back, I have to admit he was an extraordinary mentor and positive force in my life – as he was for all of us who he knew him as family, friends and colleagues.

I have thought about Ludwik's infectious positivity. I think it goes back to his experiences of war in Poland, and there is no question his politics were deeply affected by his brief and horrible experiences in the Soviet Union and of the Soviet soldiers when he and Wladyslaw were fleeing from the Communists at the end of the war. When he arrived in Adelaide, he left Europe behind as a traumatic memory, and resolved to draw a curtain on the past and to start anew, to live and enjoy his new life. He loved living in Australia, and loved Adelaide, and more than all, his own home, which he designed himself and which he hardly left in the last couple of years of his life.

We loved Ludwik and we loved his spirit. He was a good and generous man who loved life and having fun. He was inspirational through his art, his professional discipline and dedication, and his attitude to life.

*This eulogy, only slightly modified, was presented by Adam at Ludwik Dutkiewicz's funeral 6<sup>th</sup> May*



2008. There were many warm reflections at the family wake that followed, as well as a viewing of two of Ludwik's short films: *Transfiguration and Reflections*.

Adam is a critic, author and publisher on art. His fourth publication by his publishing house

Moonarrow Press ([www.moonarrow.com.au](http://www.moonarrow.com.au)) in the series *Modern Art in South Australia*, planned for 2009, is *Adventures in Art: The Paintings, Graphics, Photographs & Films of Ludwik Dutkiewicz*. He also wrote an obituary which appeared in *The Advertiser*. Eds.

## Ludwik Dutkiewicz at the Botanic Gardens and State Herbarium, Adelaide: a postscript

Bill Barker

State Herbarium of South Australia

Like many post-war immigrants to Australia Ludwik Dutkiewicz's first employment was peripheral and lowly compared with the qualifications and experience he had gained in Europe. He obtained employment at the Botanic Gardens of Adelaide as a "sign writer and botanical artist" (Director's Report, Feb. 1953) and took over from his predecessor, a Miss Hawson Clarke, production of both labels and colour works on plants growing in the living collection until the 1970s. At some point he began to work regularly with Hansjoerg Eichler, who joined the State Herbarium as the new Keeper in 1955, illustrating taxonomic research. His involvement grew from a day a week to 3 days and then full-time under John Jessop in the 1970s. The Botanic Gardens and State Herbarium archives contain botanical illustrations and drawings that remain unpublished.

Which botanist and project Ludwik drew for seems to have influenced his style. For all the freedom and flamboyance of his abstracts Ludwik, in my experience, was meticulous in botanical illustration. His leaves were drawn in pencilled rectangles matching length and breadth and he showed extreme patience with my demands on

illustrations of *Euphrasia* rendered for my thesis. The delicate flowers, fixed in FAA, flopped about and we spent hours getting their orientation right. But perhaps I was over-demanding! Another published work, additional to those cited in Adam Dutkiewicz's eulogy, is Bob Chinnock's (2007) *Eremophila and allied genera*. In this work Ludwik's line art figures extensively. His renditions of *Eremophila* are more free in their presentation. Most were drawn from cultivated fresh material since Bob had the support of not only his own plantings but a lively group of *Eremophila* fanciers. Ludwik's colour work was much freer too, as in the example on the prior page. Many of us experienced discussions of the fourth dimension – I probably unfairly observed that he struggled with the third at times, for I am uncertain whether that was real or whether some of his apparently flat artwork related to instructions to draw pressed specimens exactly as they were.

Ludwik was "one of life's characters". Nothing, not important event nor lofty person, would dampen the spontaneity of his shocking humour, which was invariably accompanied by his penetrating laughter. His humour, never nasty, was aimed at promoting as much fun as possible.



Fig. 1. Tea and cake at the State Herbarium, about 1968. Clockwise from left: Hansjörg Eichler, Ludwik Dutkiewicz (seated), Kosmyn Chorney, Winston Heading, John Carrick, Nik Donner, Judy Wheeler, Barb Welling, Joe Weber (seated at front).

Ph. Botanic Gardens & State Herbarium.



Fig. 2. Clockwise from top left. a, David Whibley and Ludwik checking their botany.  
b, Ludwik in laughter mode – a mild attack.  
Photos Botanic Gardens & State Herbarium.  
c, 1981: Ludwik's large watercolour poster celebrating John Jessop's return from overseas at time of building eastern herbarium extension and bridge to library: (from left) Munir Ahmad Abid, John, the building supervisor, and Noel Lothian with pipe.  
Ph. Bill Barker

Ludwik started the tradition of supplying cartoons to celebrate events of workplace and workmates (Fig. 2c). Many of us received his caricatures.

After retirement in February 1983 he began a new chapter in his life. Those few who saw him told of his reclusive nature. So it was a relief to hear how his family relationships had strengthened as the years went by.

**Brian (Bill) Burtt**  
**August 27<sup>th</sup> 1913 – May 30<sup>th</sup> 2008**  
**Ian Hedge**  
Royal Botanic Gardens, Edinburgh

Brian Laurence [Bill] Burtt died on May 30 2008; he was 94. He came from Kew to the Royal Botanic Garden Edinburgh in 1951 and gave much to the garden, in many ways, for over the next 50 years. His botanical productivity was enormous and often of major taxonomic importance, especially in such families as Gesneriaceae and Zingiberaceae. With a first botanical paper

published in 1932 and his last one currently in press, his publishing life span covered 76 years. His wife, and co-author of many works on the southern African flora, Olive Hilliard survives him.

A newspaper obituary can be found at: [www.independent.co.uk/news/obituaries/b-l-burtt-plant-taxonomist-846272.html](http://www.independent.co.uk/news/obituaries/b-l-burtt-plant-taxonomist-846272.html).

Source: Taxacom website

**Robert Dunlop (Bob) Royce**  
**1914–2008**

Robert Dunlop Royce, Curator of the Western Australian Herbarium 1960–74 and significant collector of Western Australian plants, passed

away peacefully on 10<sup>th</sup> July 2008, aged 94. He was born on 14<sup>th</sup> March 1914.

Kevin Thiele

## Botanical art

With the passing of three artists with connections to botanical art it seems timely to again draw attention to the Flockton Award and some very informative Botanical Art web pages.

If you want to find out more of courses, botanical art groups, exhibitions etc. in Australia, The Botanical Art Society of Australia (Web ref. 1) and the Botanic ART site have lots of information and links. But if you want to range a little bit wider, then Peter Neish's Botanical Artistry pages also have lots of interest (Web ref. 3) and a more international flavour.

Web ref. 1: [www.botanicalartsocietyaustralia.com/newsletter.htm](http://www.botanicalartsocietyaustralia.com/newsletter.htm)

Web ref. 2: [www.botanicart.com.au/index.html](http://www.botanicart.com.au/index.html)

Web ref. 3: [www.botanicalartistry.com/](http://www.botanicalartistry.com/)

### Margaret Flockton Awards 2008

First prize of \$5000 was awarded to Lesley Elkan of the Royal Botanic Gardens, Sydney for her study of *Blechnum nudum* and second prize went to Lesley Randall, University of Davis, California USA, for her *Hibiscadelphus distans*.

Work by Lucy Smith, Royal Botanic Gardens, Kew, England (*Dioscorea* sp. nov.), two studies by Catherine Wardrop, Royal Botanic Gardens, Sydney (*Indigofera* sp. nov. and *Cycas nitida*) and second works by Lesley Elkan (*Pycnosorus pleiocephalus*) and Lesley Randall (*Passiflora coriacea*) were all Highly Commended.

All of these works can be seen on the web site.

The competition is open to all: there is no necessity to be employed by an institution in order to enter. Entries are due late January/February each year.

Web ref.: [www.rbgsyd.nsw.gov.au/science/Our\\_resources/botanical\\_illustration/margaret\\_flockton\\_award](http://www.rbgsyd.nsw.gov.au/science/Our_resources/botanical_illustration/margaret_flockton_award)

### The Australian Masters of Botanical Art

The recently held national exhibition *Botanica 2008: The Fruits of our Labour* in Sydney, brought together works by leading botanical artists from around Australia. Amongst those who exhibited were Celia Rosser, Jenny Phillips, Gilbert Dashorst, Betty Hinton, Lauren Black, Jenny Wilkinson, Beverley Allen, Susannah Blaxill, David Mackay, Elaine Musgrave, Deirdre Bean and Fiona McGlynn. Kew Gardens' illustrator Lucy Smith was the 2008 Botanica guest artist. Works and biographies of each of the artists exhibiting can still be seen on the website.

Web ref.: [www.rbgsyd.nsw.gov.au/friends/events\\_activities/botanica\\_2008](http://www.rbgsyd.nsw.gov.au/friends/events_activities/botanica_2008)

### Northern Territory botanical art exhibition

In 2006, artists Fiona Hall, Judy Watson, Winsome Jobling, Deborah Wurrkidj, Marita Sambono and Irene Mungatopi and photographer Peter Eve explored the scientific, cultural and social aspects of indigenous plant species with traditional knowledge custodians from the Daly River region and ethnobiologist Glenn Wightman. The resulting artwork has already been displayed in Darwin. It is presently on display in Sydney with another exhibition to be held in Brisbane.

Red Box Gallery at the National Herbarium of NSW, Royal Botanic Gardens, Sydney. Saturday 5 July to Friday 15 August, 10 am until 4 pm. Weekdays only.

[www.rbgsyd.nsw.gov.au/welcome\\_to\\_bgt/feature\\_stories/replant\\_exhibition](http://www.rbgsyd.nsw.gov.au/welcome_to_bgt/feature_stories/replant_exhibition)

Queensland University of Technology Art Museum  
30 October 2008 to 18 January 2009

[www.artmuseum.qut.edu.au/exhibit/news-event.jsp?news-event-id=14809](http://www.artmuseum.qut.edu.au/exhibit/news-event.jsp?news-event-id=14809)

### Shirley Sherwood Gallery of Botanical Art

The new Shirley Sherwood Gallery of Botanical Art has opened to the public. It is the first gallery in the world to open year round dedicated solely to botanical art.

[www.kew.org/events/shirley-sherwood-gallery.html](http://www.kew.org/events/shirley-sherwood-gallery.html)

### Botanical art exhibition for ASBS conference-goers

The Friends of the Botanic Gardens of Adelaide will be hosting an exhibition of the wildflower art of Jan Woodman, well known to South Australians for her beautiful collages of the more delicate plants of our State's flora. The exhibition will finish on 30 September half way through the ASBS National Conference, but those attending will find the walk through Botanic Park to North Lodge from the Adelaide University campus worth the 5 minutes.

The opening of the exhibition will coincide with the launch of *Nature Revealed: an artist's view of the wildflowers of South Australia*, a book featuring Jan's work over the past 25 years. It is published by the Board of the Botanic Gardens and State Herbarium. Much of Jan's work is supported by voucher specimens and photographs.

Bill Barker

## News

### Western Australian treasure to be 100

Katie Syme has informed us that the incredible Frederica Lucy Erickson (née Sandilands) Hon D Litt., AM, Cit.WA, FRWAHS, better known as Western Australian treasure, Rica Erickson, will turn 100 on August 10, 2008 (Fig. 1).

For those of you unaware of this lady and her achievements as an author, firstly on botanical subjects such as *Orchids of the West* (1951), *Plants of Prey* (1958) and *Triggerplants* (1958) and later on historical subjects such as the *The Drummonds of Hawthornden* (1968) you can visit the Battye Library web page devoted to her (Web ref. 1); it chronicles them all, along with all her other activities. One of her other major roles has been as botanical artist and examples of her work, particularly the orchids, triggerplants and plants of prey, can also be seen on these pages.

Rica was named in 2006 as one of the 100 Most Influential People ever in Western Australia's history by an eminent panel and sponsored by The West Australian and in 2007 was awarded the Heritage Council of WA Individual Award.

Congratulations to Rica on achieving this milestone and on her remarkable life and achievements.

Web ref. 1: [www.slwa.wa.gov.au/erickson/pages/home.html](http://www.slwa.wa.gov.au/erickson/pages/home.html)

### Michelin Man™ samphire named as top plant species for 2007

Kelly Shepherd and Stephen van Leeuwen's Michelin Man™ samphire species, *Tecticornia bibenda*, has been named as the plant representative in the 2007 inaugural Top 10 Species by the International Institute for Species Exploration. More about this innovative way of bringing attention to systematic outcomes can be seen in the Websites of Interest.

### ARC seeking views on journal rankings

On 12th June the Australian Research Council (ARC) launched a consultation period on a draft journal rankings list. Journals are one of the indicators that will be used on a discipline-specific basis to evaluate research as part of the Excellence in Research for Australia (ERA) initiative.



Fig. 1. Photo of Rica Erickson used for her 100<sup>th</sup> birthday invitations. Reproduced with the permission of the family.

Research outlets are ranked into four tiers (A\*, A, B and C) on the basis of the overall quality that each has for a particular discipline.

Here's a selection of mainly systematic journals in the over 21,000 journals listed, with their rating:

#### A\*

- *Annual Review of Ecology Evolution and Systematics*
- *Nature*
- *PLoS Biology*
- *Proceedings of the Royal Society of London Series B*
- *Quaternary Science Reviews*
- *Science*

#### A

- *Annals of the Missouri Botanical Garden*
- *Australian Systematic Botany*
- *Perspectives in Plant Ecology Evolution and Systematics*
- *Plant Systematics and Evolution*
- *Systematic Biology*
- *Taxon*
- *Trends in Ecology & Evolution*

## B

- *Australian Journal of Botany*
- *Botanical review*
- *Invertebrate Systematics*
- *Journal of Zoological Systematics and Evolutionary Research*
- *Linnean Society Botanical Journal*
- *Review of Palaeobotany and Palynology*
- *Systematic and Applied Microbiology*
- *Systematic Botany*

## C

- *Austrobaileya*
- *Botanical Journal of the Linnean Society*
- *Insect Systematics & Evolution*
- *International Journal of Systematic Bacteriology*
- *Journal of Systematic Palaeontology*
- *Muelleria*
- *Nuytsia*
- *Systematic and Applied Acarology*
- *Systematic Parasitology*
- *Systematic Zoology*
- *Systematics and Biodiversity*

Submissions close on Thursday 14 August, 2008.

Website: [www.arc.gov.au/era/indicators.htm](http://www.arc.gov.au/era/indicators.htm)

## ASB Student Prize

Congratulations to Ryonen Butcher of the Western Australian Herbarium for winning the *Australian Systematic Botany* Best Student Paper award for 2007. Ryonen's paper, co-authored with Margaret Byrne and Darren Crayn was a study of the rare "leafless" *Tetratheca* species (Elaeocarpaceae) from the Koolyanobbing area of Western Australia. Molecular and morphological study revealed new restricted taxa and also that "leaflessness" of the taxa concerned is as a result of convergent evolution.

If you don't have access to hard copy, there is full access to this paper on the web, either through the page giving details of the prize, which is offered annually, or it can be found in volume 20, issue 2 of 2007.

Web site: [www.publish.csiro.au/nid/150.htm](http://www.publish.csiro.au/nid/150.htm)

## Adelaide welcomes Hugh Cross

Dr Hugh Cross has recently joined the staff of the State Herbarium of South Australia as a molecular biologist. Hugh will be working on several projects as part of this position in collaboration with herbarium staff to incorporate molecular genetic data with ongoing research projects. A major part of Hugh's research will be as part of the international collaboration on the Barcoding of Life, which includes two national efforts, one to obtain molecular barcodes for Australian tree species, and another for grasses.

Another component of Hugh's research will be in conjunction with the Australian Centre for Ancient DNA at the University of Adelaide, in which he will be involved in several projects involving ancient plant DNA.

Hugh completed his Ph.D. in 2003 at Columbia University in New York in conjunction with the New York Botanical Garden. His dissertation project was on the systematics and origin and evolution of crops in the genus *Sechium* (Cucurbitaceae). He continued systematic work on the cucumber family in postdoctoral work at Leiden University in The Netherlands. At Leiden Hugh also began research in ancient DNA and established a laboratory there for ancient DNA research. In addition Hugh worked on mycological genetics and plant-fungal interactions at a laboratory he set up at Harvard University.

In addition to his plant systematic research, Hugh has worked on plant and fungal population genetics, and on research on ancient and historical DNA of a range of material, including stomach contents of mammoth, orchid pollinia collected from museum collections of insects, and older museum collections of plants and fungi. He is looking forward to learning about and doing research on Australia's diverse biota, both past and present.

## Draft Climate Change Report

The Garnaut Climate Change Review commissioned by Australia's Commonwealth, state and territory governments to examine the impacts, challenges and opportunities of climate change for Australia issued a draft report on July 4th 2008. The final report is due by September 30th 2008 with a supplementary draft report to be released in late August 2008.

All of these reports with earlier interim reports are available for downloading on the web site.

Web site: [www.garnautreview.org.au/CA25734E0016A131/pages/home](http://www.garnautreview.org.au/CA25734E0016A131/pages/home)

## Karen Wilson – Member of the Order of Australia

In the recent Queen's birthday honours list Karen Wilson was made a Member of the Order of Australia in recognition of her career in botany and in documenting Australia's biodiversity, which has to date spanned 35 years. In particular the award noted her contributions to research on the sedges and *Casuarina*, representation on a number of international committees, especially her role as Chair of *Species 2000*, and general activity in the botanical community, especially with respect to training and mentoring postgraduate students and involvement in the biosystematics courses at UNE.

As many of you are aware Karen has had a key involvement in several international databasing initiatives in recent years, notably the *Species 2000* project ([www.sp000.org](http://www.sp000.org)), which aims to link all databases of names of all organisms in an electronic *Catalogue of Life* in partnership with the North American *Integrated Taxonomic Information System* (ITIS; [www.itis.usda.gov](http://www.itis.usda.gov)) and in collaboration with the *Global Biodiversity Information Facility* ([www.gbif.org](http://www.gbif.org)). She currently chairs the *Species 2000* team, and is also a committee member for *Species 2000 Asia–Oceania*, a regional arm of *Species 2000*. In these committees she has worked tirelessly and made an enormous contribution to botany at an international level and in the promotion of Australian botany. This reputation will be enhanced over the next few years as she takes on the role of Secretary General for the upcoming IBC meeting in Melbourne in 2011.

I'm sure you will join with me in congratulating Karen on this well deserved award.

#### Excerpt from media release

Karen, whose interest in native plants began in childhood while growing up on a sheep and cattle property on the North West Plains between Moree and Mungindi, said she was surprised and delighted to be honoured.

"I feel that this award isn't just for me – it's a recognition of the work of all my colleagues here at the Royal Botanic Gardens and a celebration of women working in science", she said.

"Many of my achievements over the last 35 years would not have been possible without the expert knowledge and support of my colleagues and it's been a privilege to work alongside them in one of the most iconic botanic gardens in the world."

As a teenager growing up on the North West Plains, Karen would collect plant specimens, press them and send them to the Royal Botanic Gardens for identification.

"Little did I know that one day I would be one of the botanists identifying such specimens for enquirers!" she said.

Karen combines her work as Acting Manager of the Gardens' Plant Diversity Section with her duties as an Adjunct Associate Professor at the University of New England, Armidale.

She said one of the most dramatic changes during her career at the Gardens was the impact of new technology.

"Thanks to computerised systems we can collate, analyse, and share information much more easily.

"It's also made it easier for us to collaborate with similar institutes throughout the world, and people can freely access a wealth of information about the flora of NSW by visiting our website.

"Another major advance is in techniques to analyse DNA sequences. This is leading to much better understanding of the relationships of plant groups."

Acting Executive Director of the Botanic Gardens Trust Bernard Carlon said: "We are thrilled that the achievements of one of the Gardens respected botanists have been recognised in this way.

"Karen is regarded as an international authority on sedges, smartweeds and docks, she-oaks and rushes, and we are

very lucky that she has dedicated her career to the Royal Botanic Gardens Sydney.

"Her strong collaborative links with botanists here and overseas have helped to raise the profile of Sydney's Royal Botanic Gardens all over the world."

Brett Summerell  
Botanic Gardens Trust

*The coverage Karen received in  
The Australian is also still on the web:  
[www.theaustralian.news.com.au/  
story/0,25197,23832761-5006784,00.html](http://www.theaustralian.news.com.au/story/0,25197,23832761-5006784,00.html)  
Eds.*

## 150 year anniversary of reading of Evolution and Natural Selection papers

July 1<sup>st</sup> 2008 marked the 150<sup>th</sup> anniversary of the reading at the Linnean Society of London of the landmark papers now generally referred to as the Theory of Evolution by means of Natural Selection. What was actually read at this meeting was:

Read 1st - A letter from Sir Charles Lyell and Dr. J. D. Hooker addressed to the Secretary, as introductory to the following papers, on the laws which affect the production of varieties, races, and species, viz.

- An extract from MS work on species by Charles Darwin, Esq., F.R.S. & L.S., sketched in 1839 and copied in 1844.
- An abstract of a letter addressed by Mr. Darwin to Prof Asa Gray of Boston, U.S. in Oct. 1857.
- An essay on the tendency of varieties to depart indefinitely from the original type, by A. R. Wallace Esq.

This information came from Moody (1971) and similar information is given as a preface to the publication (Darwin & Wallace 1858).

Neither Darwin nor Wallace was present at the meeting.

If you want to read more about this historical meeting, referred to as a "non-event", because of the sheer volume of other business, see Moody (1971). The meeting also included the reading of 5 other papers, a eulogy for the recently deceased Robert Brown, the election of George Bentham as a member and his replacing of Brown as vice president of the Society. Australian botanists might be interested to see that amongst items presented to the Society at the meeting were "a collection of original drawings of Tasmanian Orchidiae by William Archer, F.L.S., presented by Mr Archer.

The Darwin-Wallace paper was accepted for publication at the meeting and appeared in print in the *Journal of the Proceedings of the Linnean Society; Zoology* in August 1858 (Darwin & Wallace 1858).

## References

- Darwin, C. R. & A. R. Wallace. 1858. On the tendency of species to form varieties; and on the perpetuation of varieties and species by natural means of selection. [Read 1 July] *Journal of the Proceedings of the Linnean Society of London. Zoology* 3: 46–50. [http://darwin-online.org.uk/EditorialIntroductions/Freeman\\_TendencyofVarieties.html](http://darwin-online.org.uk/EditorialIntroductions/Freeman_TendencyofVarieties.html)
- Moody, J.W.T. (1971). The reading of the Darwin and Wallace papers: an historical “non-event” *J. Soc. Bibliophy nat. Hist.* (1971) 5 (6): 474–476. [www.linnean.org/fileadmin/images/History/Moody\\_-\\_Darwin\\_Wallace\\_Papers.pdf](http://www.linnean.org/fileadmin/images/History/Moody_-_Darwin_Wallace_Papers.pdf)

## Some more recent history

Thanks to Frank Zich whose eagle eye caught the following when going through some old correspondence. This is Bernie Hyland’s true feelings about Lauraceae as expressed in a letter to Mark Coode at Kew in July 1983.

Lauraceae is a family which should not exist. I am sure it will unbalance the mind and metabolism of quite level headed people. It was a mistake for me to assume I could comprehend its intricacies and explain on paper, the relationships of its Australian species. I should have stuck to roo shooting and taken up dozer driving during the summer months.

*Thanks to Bernie for agreeing to it being reproduced here – I’m sure we’ve all felt like this about our own particular families at times! Eds.*

## Make sure your permits are in order before you collect

Two Czech scientists were arrested in June for illegally collecting a large number of endangered insects from Singalila National Park in the Darjeeling district of India. They remain in jail after their first bail petition was rejected.

Web sites: [www.nature.com/news/2008/080702/full/454014a.html](http://www.nature.com/news/2008/080702/full/454014a.html);  
[www.hindustantimes.com](http://www.hindustantimes.com)

## Busy days for one of our Councillors

Dale Dixon has commenced 6 months work as the Acting Deputy Director Research and Collections at the Museum and Art Gallery of the Northern Territory. Dale will also continue as the Curator of the Herbarium.

## First record of the Death Cap Fungus for South Australia

*Amanita phalloides*, the Death Cap Fungus, has recently been collected growing under oaks in the Waite Arboretum at Urrbrae. This is the first known record for South Australia, although it is already known from Melbourne, Canberra and some Victorian towns. Worldwide, the fungus has caused 50–90% of all deaths involving mushroom consumption and so it is not a welcome

introduction. *A. phalloides* was collected by Pam and David Catchside (State Herbarium of South Australia/Flinders University) and Teresa Lebel. (National Herbarium Melbourne). Specimens were sent by Hugh Cross (AD) to Ben Wolfe, a colleague at the Pringle Lab at Harvard University, who confirmed identification of the species with DNA analysis.

A comprehensive fact sheet on the fungus and what it might be confused with can be downloaded from the Australian National Botanic Gardens site (Web ref. 1). Further information can also be seen at the other sites given (Web ref. 2 & 3).

Web ref. 1: [www.anbg.gov.au/fungi/deathcap.html](http://www.anbg.gov.au/fungi/deathcap.html)

Web ref. 2: [www.mja.com.au/public/issues/171\\_5\\_060999/trim/trim.html](http://www.mja.com.au/public/issues/171_5_060999/trim/trim.html) (Medical Journal of Australia item).

Web ref. 3: [www.mykoweb.com/CAF/species/Amanita\\_phalloides.html](http://www.mykoweb.com/CAF/species/Amanita_phalloides.html) (Fungi of California account of the species)

## Fungimap on Kangaroo Island

At the end of June 2008 Fungimap committee members Tom May, Katrina Syme, Paul George, Pam O’Sullivan and Pam Catchside, together with Teresa Lebel, Richard Robinson, David Catchside, Thelma and Phil Bridle (Adelaide Fungal Studies Group) and Helen Vonow (AD) visited Kangaroo Island for a survey of fungi. The surveys were mostly in Flinders Chase National Park, where the bush fires of December 2007 burnt out much of the Park. David and Pam Catchside have been surveying fungi on Kangaroo Island since 2002 and so this was a great opportunity to compare pre- and post-fire sites.

## New national weed research centre announced

The Federal Minister for Agriculture, Fisheries and Forestry, Hon. Tony Burke, announced on 8th May that the government would establish a new national weed research centre which:

would deliver on Labor’s election pledge for a \$15 million, four-year National Weeds and Productivity Research Program to investigate the most serious weed problems and get better co-ordination between farmers, researchers and government.

No further information has been forthcoming since this announcement.

Web ref.: [www.weeds.crc.org.au/main/weeds\\_crc\\_to\\_end.html](http://www.weeds.crc.org.au/main/weeds_crc_to_end.html)

## New address for Weeds CRC website

Contrary to what was reported in the last newsletter and regardless of who hosts the new national weed research centre, the Weeds CRC website and all its resources will remain online

for up to two years after the CRC's closure. But the address will be slightly different.

As of 30 June 2008 the address for the Weeds CRC website changed to [www.weedscrc.org.au](http://www.weedscrc.org.au) — the dot between “weeds” and “crc” was removed. Both addresses were still accessible on 17th July but the old address [www.weeds.crc.org.au](http://www.weeds.crc.org.au) is no longer being updated and is expected to be removed any day now.

### *Euphrasia arguta* R.Br. – extinct, now rediscovered

Graham Marshall of Forests NSW's Walcha office was undertaking a field survey in Nundle State Forest for threatened species in an area planned for harvest when he found what at first appeared to be *Euphrasia ciliolata*.

But the plant had some differences, and he showed the population to Forests NSW flora ecologist Doug Binns, who recognised it as most likely being the long-lost *Euphrasia arguta*, which Barker subsequently confirmed.

Until this discovery the species had not been collected for more than a century. The species has been considered extinct since clarification of its identity in a revision of the Australian species of *Euphrasia* (Barker 1982). The last record was a Boorman collection, again from Nundle, east of Tamworth, in June 1904.

*E. arguta* was first described by Robert Brown in 1810 from a collection he made in 1804 on the North Coast of New South Wales in mountains near the Paterson River, west of Bulahdelah.

It was obviously rare, with only about five locations recorded between 1804 and 1904, ranging from Mudgee in the south to Walcha 200 km to the north as well as the original east coast locality.

Forests NSW will now develop a conservation management plan for the plant, which was discovered in an area disturbed during fire control activities in the previous summer.

Bill Barker and Doug Binns

## Conferences

### Australian Systematic Botany Society Adelaide conference

Preparations for the Adelaide conference are on track. Early-bird registration has now passed.

#### Student support

If you wish to apply for student assistance from ASBS then please fill out the downloadable form on the ASBS website and send it with your registration. To be eligible for such assistance (usually the cost of the early bird registration fee) you must be giving a presentation at the conference.

#### Programme

This will be finalised after the deadline for offers of papers.

#### Field trip

A number of people who have already registered have indicated an interest in the field trip. Until we know how many papers are needed to be fit into the programme it will not be possible to say whether we will be offering this, although plans have been made to cover the possibility.

#### Your botanical photographs for Dinner

For those of you who have some interesting photographs of your fellow botanists as they go about their work we would be happy to receive them as long as they are not too compromising.

We are aiming to put together a Power-point of such items. It is 20 years since a successful showing of such pictures at the ‘History Conference’ dinner in Melbourne. We hasten to add that these will only be for viewing at the conference and the photographs will not be used for any other purpose without permission. Best photograph will receive a prize. Send offerings to Robyn Barker.

#### Obtaining collecting permits

For those wishing to do some fieldwork while in South Australia you will need to apply for a collecting permit. Refer to the relevant Department for Environment & Heritage document (Web ref.).

Web ref.: [www.environment.sa.gov.au/biodiversity/pdfs/seed\\_collect.pdf](http://www.environment.sa.gov.au/biodiversity/pdfs/seed_collect.pdf)

#### Jan Woodman exhibition

Reported in more detail elsewhere (p. 17), this exhibition is sure to be of interest to those attending the conference. A new book featuring Jan's art will also be available. It gives special emphasis to the value of her voucher collections.

#### Communicating Systematics discussions

Under an umbrella of Communicating Systematics, we are putting together separate sessions on teaching, promoting and publishing systematics. Some will incorporate discussion to gain feedback from the audience.



### **Publishing systematics**

Such a discussion seems timely because :

- there are changes foreshadowed next year to the editing of *Australian Systematic Botany*, with CSIRO Publishing planning to introduce in-house Journal Publishers, each of whom will cover several journals within a discipline (such as Plant and Agricultural Sciences), with a concomitant shift to a greater role for an Editor-in-Chief and the Editorial Board, and
- there are also rumoured changes to be made to science publications in New Zealand which suggest that the publication of systematics papers may become more difficult.

But not only that – in Australia, as well as *Australian Systematic Botany* we have all of the herbarium house journals – all trying to do the same thing but not really having a great deal to do with each other. Then add the flora producers who also do a lot of editing – again at State and Federal level. This duplication of effort has already been recognised in some of the vision surrounding Australia's Virtual Herbarium (AVH), Atlas of Living Australia (ALA) and Encyclopaedia of Life (EOL), all of them still in developmental stages and all of them to be discussed elsewhere in the conference.

Is it time to review our practices and try and streamline our efforts so that botanists are not duplicating efforts, so that each herbarium does not have to have precious botanist's time taken up with editing of individual state floras and journals?

Even if there is no agreement to this larger vision and we elect to continue as we are, we all share a lot of the same problems.

- Keeping track of papers – as papers in journals go through their various stages how do you deal with them – do you use a software package to keep track?
- Page setting papers – publication packages
- Impact factors etc
- Meeting time lines for publication – getting copy. Encouraging contributions from colleagues
- Dealing with illustrations – artists and packages
- Publication on the web and/or in hard copy – after a number of years the ICBN committee has still to come to a decision in the matter of species descriptions on the web
- Open access – it is possible to publish your ASB paper as Open Access although it appears that this is an offer which has yet to be taken up. Note however the fees charged by CSIRO Publishing at [www.publish.csiro.au/nid/247.htm](http://www.publish.csiro.au/nid/247.htm)
- Training. How did you learn to be an editor? What did you have to learn? Do you do it by choice or would you rather be doing systematics?
- Dealing with nomenclature
- Dealing with the requirement for Latin diagnoses or descriptions
- Guidelines for publication and papers – flexible or

rigid?

- Are we publishing what people want?
- Should we have more interpretive sections in our house journals at least?
- Problems with referees. Selection/finding of referees. Number of referees desirable. Bias/conflict of interest. Tardiness. Sloppiness
- Problems for referees – time, recognition as part of duties
- Should there be some form of training for referees?
- Use of herbarium house journals as exchange – does this have to inhibit changes in our practises
- Creation of electronic archives of back issues of Herbarium house journals.
- Differences in publishing alpha taxonomy (increasingly not acceptable in highly ranked journals) and systematics.
- Prospects for taking xml versions of species descriptions straight from journals into taxonomic description databases (particularly for groups that have no or few flora treatments, such as fungi), and associated issues of format, copyright and stewardship of taxonomic description databases.
- Is there a need for a mentoring or discussion group?

You might be interested in the comments the Royal Society of New Zealand received in response to a survey conducted recently for their journals. See Publishing science research – where, why and how? (Web ref. 1).

### **Teaching systematics**

Being taught systematics today is a very different experience from that of even 20 years ago. What effects has this had on our profession?

Michael Bayly is to present what Pauline Ladiges gave to the Sydney meeting of the National Taxonomy Forum last year - you can see the basis of this on the ABRs web site (Web ref. 2) and Mike may well have some of his own input. We have just had a postgraduate workshop run here in Adelaide which Kevin Thiele and Judy West both attended along with the postgraduates and so we think that there are probably some comments to come out of that.

We don't want to get bogged down in just one aspect of the subject in these communication discussions and would like to hear from a number of people on different aspects for a shorter time.

So do get involved by making a short presentation (c. 5-10 minutes) on some aspect of the teaching of systematics. [If we get all the people teaching systematics talking to each other, exchanging ideas - perhaps setting up their own discussion group - we have advanced. And the fact that there are postgraduate students present means that we should be able to get some input from that end of the spectrum as well.]

A list of suggested discussion topics circulated earlier has been reproduced here. Please don't

feel constrained by this list. And post-graduate students, your experiences are also welcome.

- Comparison between the students of today and yesterday/Australia and elsewhere
- How you get around the problems of reduced teaching time
- Reduction or complete lack of laboratory time - how do you handle it
- Introducing students to field trips
- Changes to teaching made by the web
- Forthcoming and existing changes in university degrees
- How herbaria might/do help
- Time for own systematic research
- Time for postgraduate students doing taxonomy - how many can you comfortably cope with
- Loans for short term postgraduate studies - do these become a long term problem
- Does the increasing pressure for extra-systematic (molecular, genetic etc) studies compromise the actual systematic studies in theses. (Is this the reason why most students today cannot provide a synonymy?)
- Should the fundamentals of identification be taught at University or be offered by other means
- "Lower plants" and their systematics

### **Promoting systematics**

Cameron Slatyer has agreed to talk on this topic. Come along with your ideas.

### **Format**

We are presently trying to allow 1½ hours, probably towards the end of the day, or immediately after lunch, for these discussion sessions, but it will depend on how much else we have to fit into the programme.

We would like to receive nominations for short presentations on any of these topics. Abstracts need not be long but it would be good to also include these in the abstract booklet.

Tim Entwistle has agreed to chair the Publishing Systematics discussion group and Kristina Lemson is helping in the organisation of the Teaching Systematics discussion.

Web ref. 1: [www.seri2009.com.au/pages/home.html](http://www.seri2009.com.au/pages/home.html)

Web ref. 2: [www.environment.gov.au/biodiversity/abrs/workshop-forum/ntf.html](http://www.environment.gov.au/biodiversity/abrs/workshop-forum/ntf.html)

## **Biodiversity Information Standards (TDWG) 2008 meeting**

Registrations for the Biodiversity Information Standards (previously known as the Taxonomic Database Working Group, hence TDWG) conference to be held at the Maritime Museum of Western Australia in Fremantle from Sunday 19th – Saturday 25th October 2008 are now open.

The outline of the conference program can be found on the web site and presentations are now being sought. The program will centre around the Atlas of Living Australia (Wednesday October 22). There are also a number of tutorials (session 8 and repeated session 13) aimed at presenting key TDWG activities in simple terms.

Accommodation in the Fremantle area is limited and early booking is advisable. Further information is given on the website.

Web site: [www.tdwg.org/conference2008/](http://www.tdwg.org/conference2008/)

## **Consecutive International Ecological meetings in 2009**

### **10th International Congress of Ecology**

16–21 August, Brisbane, Qld

Ecology in a Changing Climate. To be jointly hosted by the Ecological Society of Australia and the New Zealand Ecological Society.

Web site: [www.intecol10.org/](http://www.intecol10.org/)

### **Society for Ecological Restoration**

23–27 August, Perth, WA

This is the Society's international conference.

Web site: [www.seri2009.com.au/pages/home.html](http://www.seri2009.com.au/pages/home.html)

### **10th International Conference on the Ecology and Management of Alien Plant Invasions (EMAPi 10)**

23–27 August, Stellenbosch, South Africa

Web site: [www.emapi2009.co.za/](http://www.emapi2009.co.za/)

### **Restoring Biodiversity**

September (dates to be advised)

#### **Sharing knowledge, experiences and exploring the way forward.**

For professionals working in the biodiversity and natural area management industry, this conference is being planned for Sydney and organisers hope to attract some of the speakers from the earlier conferences.

The forum is about:

- Methods, practices, problems and standards across the industry.
- Exploring ways to move forward as an industry.

#### **Feedback sought**

For more information and to help organisers plan the forum, visit the web site and complete the on-line survey.

Web site: [www.restoringbiodiversity09.org.au](http://www.restoringbiodiversity09.org.au)

## Retirement

### Trevor Whiffin

*Trevor was the inaugural president of the ASBS when it was formed in 1973, a position he held for two terms until 1976. Following this he had a term as Vice President. He has remained a member ever since and we are sure that all members will wish him well in retirement. Eds.*

#### Trevor at LaTrobe

Trevor Whiffin retired in May 2008 after 36 years of research and teaching in plant systematics in the Department of Botany, LaTrobe University. Trevor was born in Bedford, England. After graduating from the University of Cambridge in 1968, he was a postgraduate at the New York Botanical Garden and the University of Texas at Austin. His PhD was awarded in 1972 for a revision of *Heterocentron* (Melastomataceae), which involved field work in tropical parts of Mexico and Central America.

The La Trobe University Department of Botany appointed Trevor as its first plant systematics lecturer in 1972. On arrival at La Trobe, he quickly set up a chemotaxonomic laboratory equipped to analyse both volatile oils and flavonoids. He was armed with the most up-to-date techniques of numerical analysis using multivariate computer methods.

Throughout his 36 years at La Trobe, Trevor taught a 24 lecture angiosperm systematics course to the Botany 2 students as well as various courses on chemotaxonomy, botanical uses of the computer, plant variation and evolution and, latterly, conservation biology at third year level. He supervised numbers of Honours and PhD students involved in a range of research projects, especially on taxa in families with volatile oils (Myrtaceae, Rutaceae), as well as projects on the analysis of hybridization in species of *Acacia*, *Correa* and *Eucalyptus*.

In 1973, Trevor attended the meeting at MEL which resulted in the formation of the Australian Systematic Botany Society and at which he became its first president.

At La Trobe, Trevor's main research interest has been in the variation, evolution, biogeography and

identification of the Australian rainforest flora. As early as 1975, he had forged a fruitful link with Bernie Hyland and others at CSIRO Atherton and this continued until Bernie's retirement very recently. This collaboration culminated in 2003 in the publication of the computer-operated, interactive identification system 'Australian

Tropical Rain Forest Plants: Trees, Shrubs & Vines', by Hyland, Whiffin *et al.* (CSIRO: Melbourne). Co-operation between two expert plant systematists resulted in a widely acclaimed, trend-setting outcome, with the long-term extensive field experience of one perfectly complementing the advanced computer data management skills of the other.

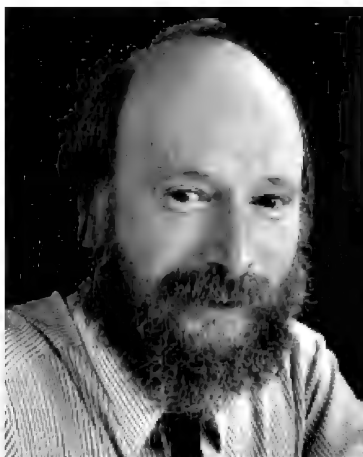
Trevor made plant collections in all major rainforest areas of eastern Australia from northern New South Wales northwards and also collected on brief trips to Papua New Guinea. For the Flora of Australia project, he prepared the accounts for Melastomataceae and Monimiaceae.

Bob Parsons

#### Trevor in the rainforest

I first met Trevor in 1971 or 1972, when he came to Atherton on a collecting trip from La Trobe University, where he had recently taken up an appointment as lecturer in botany.

In those days, we were a Regional Station and part of the Forest Research Institute which was in the Commonwealth Department of National Development. The Forest Research Institute was centred in Canberra but had Regional Research Stations in each Australian state. The research program of each regional station was monitored by a research program committee composed of recognized experts in relevant scientific disciplines. One of the members of the research committee for the Taralgon Research Station was Professor Alan Wardrop, who was professor of botany at La Trobe University. He mentioned to Doug Johnston that he had recently appointed a young lecturer who was interested in tropical botany who had recently worked in Central and South America. Now Doug Johnston was Officer



in Charge of Regional Stations. He immediately suggested that Trevor should visit Atherton. That was how it all began.

One of the first things that I noticed about Trevor was what I thought was a really weird accent. I "tactfully" asked him about it, and he explained that it probably came about because he had spent some years in USA and had acquired an American accent, which had been superimposed on his native English accent.

Trevor accompanied us on our field work and soon became aware of what we were doing and what we hoped to accomplish. We had arranged accommodation for him at the Barron Valley Hotel in Atherton. At the end of each day, if we were in the Atherton area, we would return to the hotel for drinks and other sustenance. At the beginning of his stay at the hotel Trevor caused quite a stir by asking if he could get a key for his room as his door did not seem to have one. It was then that he was told that none of the rooms had keys. Those were the days my friends.

It was during Trevor's stay, whilst having after-dinner drinks, when we discovered there was a recess in the bar of the hotel containing really old and unusual liqueurs. One I remember was called Cherry Herring (or something similar) and was made in Denmark. There were others, whose names I can no longer remember. Over a period of time, we gradually worked our way through

them, solving many of the major problems we, and the other people isolated in the rest of the world, were experiencing at the time. Thinking back, it seems unfortunate that none of the senior politicians of the day were present to reap the benefit of our deliberations.

Trevor became acquainted with our early card-key versions of the Rain Forest Key and, unlike the rest of the botanical world at that time, he could see the possibilities. If only the computer world could start producing small, compact, powerful computers, we were in business.

Trevor contacted Neil Henry of the Queensland Forestry Department, who had done the programming when there were only two computers in the state of Queensland. In those days most programming was done in Fortran II or Fortran IV. Trevor could see we were on the right track. To cut a long story short, the computer world eventually produced adequate computers, and we produced our first working computer key. I can still remember at a Flora Malesiana conference, after Trevor had delivered a paper on our key, an eminent American botanist said to Trevor: "That was an interesting paper but will the system work?"

It's lonely being a prophet.

It is probably not well known, but Trevor has many talents in addition to those one would expect in his scientific discipline. I will mention



Trevor demonstrating the use of his interactive rainforest key to undergraduate students at JCU's Canopy Crane Research site near Cape Tribulation  
Ph. Pete Green

only two: Our youngest son, when he was an infant, knew Trevor as "Mr Whip", the French cricket expert. Members of the Ravenshoe Gun Club recognized Trevor as a talented barman who dispensed rum and soda with flair and panache.

I consider myself privileged to have known Trevor as a friend, but even more privileged to have worked with him as a colleague and scientific collaborator. Trevor is a gentleman and a scholar, and although not large in stature, has a formidable intellect and has never been known to welch on a shout.

Bernie Hyland

### Publications (in chronological order)

- Ockendon, D.J., Walters, S.M. & Whiffin, T. (1969). Variation within *Centaurea nigra* L. *Proceedings of the Botanical Society of the British Isles* 7: 549–552.
- Whiffin, T. (1971). Studies in the genus *Maieta* (Melastomataceae). *Brittonia* 23: 325–329.
- Whiffin, T. (1972). Observations on some upper Amazonian formicarial Melastomataceae. *Sida* 5: 33–41.
- Whiffin, T. & Bierner, M.W. (1972). A quick method for computing Wagner Trees. *Taxon* 21: 83–90.
- Whiffin, T. & Tomb, A.S. (1972). The systematic significance of seed morphology in the neotropical capsular-fruited Melastomataceae. *American Journal of Botany* 59: 411–422.
- Whiffin, T. (1973). Analysis of a hybrid swarm between *Heterocentron elegans* and *H. glandulosum* (Melastomataceae). *Taxon* 22: 413–423.
- Miyakado, M., Ohno, N., Yoshioka, N., Mabry, T.J. & Whiffin, T. (1974). Gymnospermin: a new labdan triol from *Gymnosperma glutinosa*. *Phytochemistry* 13: 189–190.
- Whiffin, T. (1977). Volatile oils and the study of natural hybridization between *Correa aemula* and *C. reflexa* (Rutaceae). *Australian Journal of Botany* 25: 291–298.
- Whiffin, T. (1978). Geographic variation in tropical tree species. In 'Tropical Trees as Living Systems', ed. P.B. Tomlinson & M.H. Zimmermann, Cambridge University Press, pp. 31–54.
- Leach, G.J. & Whiffin, T. (1978). Analysis of a hybrid swarm between *Acacia brachybotrya* and *A. calamifolia* (Leguminosae). *Botanical Journal of the Linnean Society* 76: 53–69.
- Whiffin, T. (1979). (compiler). Index of Current Taxonomic Research on the Australian Flora. Australian Systematic Botany Society (mimeo report).
- Almeda, F. & Whiffin, T. (1980). *Pilocosta* a new genus of tropical American Melastomataceae. *Systematic Botany* 5: 294–311.
- Whiffin, T. (1981). Analysis of hybridization between *Eucalyptus pauciflora* Sieber ex Spreng. and *E. radiata* Sieber ex DC (Myrtaceae). *Botanical Journal of the Linnean Society* 83: 237–250.
- Whiffin, T. (1982). Numerical analysis of volatile oil data in systematic studies of Australian rainforest trees. *Taxon* 31: 204–210.
- Whiffin, T. (1982). Variation and evolution in the genus *Flindersia* (Rutaceae). I. Review of the genus. *Australian Journal of Botany* 30: 635–643.
- Whiffin, T. (1982). Variation and evolution in the genus *Flindersia* (Rutaceae). II. Review of methods for geographic variation analysis of volatile oil data. *Australian Journal of Botany* 30: 645–657.
- Bramwells, H.W. & Whiffin, T. (1984). Patterns of variation in *Eucalyptus sideroxylon* A. Cunn. ex Woolls. I. Variation in adult morphology. *Australian Journal of Botany* 32: 263–281.
- Whiffin, T. & Hyland, B.P.M. (1984). Current status of taxonomic knowledge of the Australian rainforest flora. In 'Australian National Rainforest Study Report to the World Wildlife Fund (Australia)', volume 1, eds. G.L. Werren & A.P. Kershaw, Geography Department, Monash University, for the Australian Conservation Foundation, pp. 231–237.
- Whiffin, T. & Hyland, B.P.M. (1986). Taxonomic and biogeographic evidence on the relationships of Australian rainforest plants. *Telopea* 2: 591–610.
- Newnham, M.R., Ladiges, P.Y. & Whiffin, T. (1986). Origin of the Grampians shining peppermint – a new subspecies of *Eucalyptus willisii* Ladiges, Humphries & Brooker. *Australian Journal of Botany* 34: 331–348.
- Conn, B.J. & Whiffin, T. (1987). A study of the variation within and between *Prostanthera monticola* and *P. walteri* (Labiatae) using leaf volatile oils. *Muelleria* 6: 375–382.
- Whiffin, T. (1987). Chemical characters and generic delimitation. *Australian Systematic Botany Society Newsletter* 53: 49–54.
- Whiffin, T. & Hyland, B.P.M. (1988). A database for Australian rainforest trees. *Proceedings of the Ecological Society of Australia* 15: 99–100.
- Kershaw, A.P. & Whiffin, T. (1989). Australia. In D.G. Campbell & H.D. Hammond (eds.), 'Floristic Inventory of Tropical Countries', pp. 149–165. (New York: New York Botanical Garden).
- Whiffin, T. & Hyland, B.P.M. (1989). The extent and systematic significance of seasonal variation of volatile



Trevor with Rebel Elick, Atherton Herbarium. Ph. P.S. Keane

- oil composition in Australian rainforest trees. *Taxon* 38: 167–177.
- Leach, G.J. & Whiffin, T. (1989). Ontogenetic, seasonal and diurnal variation in leaf volatile oils and leaf phenolics of *Angophora costata* (Gaertn.) Britten. *Australian Systematic Botany* 2: 99–111.
- Jobson, P.C. & Whiffin, T. (1990). A new species of *Acrotriche* R. Br. (Epacridaceae) from south-eastern Australia. *Muelleria* 7: 295–299.
- Kottek, M.H., Ladiges, P.Y. & Whiffin, T. (1990). A new species of stringybark, *Eucalyptus mackintii*, from eastern Victoria, and its phenetic and cladistic relationships. *Australian Systematic Botany* 3: 671–687.
- Whiffin, T. (1990). Melastomataceae. *Flora of Australia* 18: 243–255; 325–326.
- Whiffin, T. & Hyland, B.P.M. (1991) [1992]. Current status of taxonomic knowledge of the Australian rainforest flora. In G. Werren & P. Kershaw (eds) 'The Rainforest Legacy Australian National Rainforests Study. Volume 2 – Flora and Fauna of the Rainforests', pp. 93–103. (Canberra: Australian Government Publishing Service).
- Whiffin, T. & Bouchier, A. (1992). Chemical and morphological variation in a population of *Eucalyptus radiata* (Myrtaceae) exhibiting leaf volatile oil chemical forms. *Australian Systematic Botany* 5: 95–107.
- Whiffin, T. & Ladiges, P.Y. (1992). Patterns of variation and relationships in the *Eucalyptus alpina* – *E. baxteri* complex (Myrtaceae) based on leaf volatile oils. *Australian Systematic Botany* 5: 695–709.
- Whiffin, T. & Kikkawa, J. (1992) [1993]. The status of forest biodiversity in Oceania. *Journal of Tropical Forest Science* 5: 155–172.
- Hyland, B.P.M. & Whiffin, T. (1993). 'Australian Tropical Rain Forest Trees, an Interactive Identification System.' 2 volumes, plus software. (Melbourne: C.S.I.R.O. Publications).
- Whiffin, T., Hanum Ibrahim, F., Soerianegara, I., Enriquez, G.L. & Umboh, I. (eds). (1993). 'Taxonomy of Tropical Trees for Genetic Diversity Studies.' *BIOTROP Special Publication* no. 51.
- Whiffin, T. (1993). Chemical evidence in the study of tropical tree taxonomy. In 'Taxonomy of Tropical Trees for Genetic Diversity Studies', pp. 3–11. *BIOTROP Special Publication* no. 51.
- Ladiges, P.Y. & Whiffin, T. (1993). Taxonomic revision of *Eucalyptus alpina* s.l. and recognition of three new species, *E. victoriana*, *E. serraensis* and *E. verrucosa*. *Australian Systematic Botany* 6: 365–370.
- Ladiges, P.Y. & Whiffin, T. (1995). A new name for *Eucalyptus verrucosa*, Grampian Ranges, Victoria. *Australian Systematic Botany* 8: 123.
- Hyland, B.P.M., Whiffin, T., Christophel, D.C., Gray, B., Elick, R.W. & Ford, A.J. (1999). 'Australian Tropical Rain Forest Trees and Shrubs.' CDROM plus User Guide, 95 pp. (Melbourne: C.S.I.R.O. Publishing).
- Whiffin, T. (2000). Systematics and Biodiversity in the 21st Century. Proceedings of the International Symposium on the 21<sup>st</sup> Century, University of Tokyo, Japan, October 2000, pp. 49–56.
- Moritz, C., Richardson, K.S., Ferrier, S., Monteith, G.B., Stanisci, J., Williams, S.E. & Whiffin, T. (2001). Biogeographical concordance and efficiency of taxon indicators for establishing conservation priorities in a tropical rainforest biota. *Proceedings of the Royal Society of London B* 268: 1875–1881.
- Whiffin, T. (2002). Plant biogeography of the SE Asian – Australian region. In Kershaw, P., David, B., Tapper, N., Penny, D. & Brown, J. (eds) 'Bridging Wallace's Line: the environmental and cultural history and dynamics of the SE Asian – Australian region', pp. 61–82. (Catena Verlag).
- Hyland, B.P.M., Whiffin, T., Christophel, D.C., Gray, B., & Elick, R.W. (2003). 'Australian Tropical Rain Forest Plants: Trees, Shrubs and Vines.' CDROM plus User Guide, 60 pp. (Melbourne: C.S.I.R.O. Publishing).
- Whiffin, T. (2007). Trimeniaceae. *Flora of Australia* 2: 62–65.
- Whiffin, T. & Foreman, D.B. (2007). Monimiaceae. *Flora of Australia* 2: 65–91.
- Foreman, D.B. & Whiffin, T. (2007). Atherospermataceae. *Flora of Australia* 2: 91–102.

## Food for thought

### The need for ecological vouchers

In the March edition of *Ambio*, *A Journal of the Human Environment* published by the Royal Swedish Academy of Sciences is a paper (Bortolus 2008) which perhaps should be required reading for all ecologists; it provides a lot of ammunition for taxonomists.

A researcher at the Centro Nacional Patagónico, Alejandro Bortolus is currently studying the ecological interactions and physical processes that shape the coastal/intertidal environments of Patagonia and coordinating the creation of HECO, a herbarium for coastal species which will promote interaction between ecologists and taxonomists. His paper contains numerous findings which should be of concern, although they are hardly new to taxonomists.

In a survey of the top international peer-reviewed ecological journals from 2005 to 2007 he found that:

62.5 % of the analyzed papers did not mention or acknowledge the participation of taxonomists or the use of taxonomic literature or ecological literature or any other source of information from which the author might have found the scientific names of the organisms in the study.

More frightening however was the finding that:

Only 2.5% of the analyzed papers reported that specimen vouchers were deposited in a scientific institution.

The consequences of wrong determinations, of which he cites some examples, can of course be catastrophic and Bertolus examines some of these, pointing out that information from baseline ecological studies feeds into other biological disciplines and decision-making processes – the error cascade of his title.

## Reference

Bortolus, A. (2008). Error Cascades in the Biological Sciences: The Unwanted Consequences of Using Bad Taxonomy in Ecology. *Ambio* 37: 114-118. <http://ambio.allenpress.com>

*This article was brought to our attention by Stephen van Leeuwen. Eds.*

## Predicting California's future flora

The Californian flora is a global biodiversity hotspot with 2387 endemic plant taxa. In a recent study (Loarie et al. 2008), it has been predicted that with climate change up to 66% of these species will experience more than 80% reduction in their present range within a century, although the prediction does depend on the magnitude of future emissions and on the ability of species to disperse from their current locations. Regions were predicted where species undergoing severe range reductions might persist, arguing for the protection of these potential future refugia and for help in dispersing species so that biodiversity is maintained.

## Reference

Loarie SR, Carter BE, Hayhoe K, McMahon S, Moe R, et al. (2008) Climate Change and the Future of California's Endemic Flora. *PLoS ONE* 3(6): e2502 doi:10.1371/journal.pone.0002502

## California's past flora

And rather than what the future Californian flora will look like, here's a dissenting view on what it might have looked like in the past. In a new book, *California's Fading Wildflowers: Lost Legacy and Biological Invasions* by Richard A. Minnich, Professor of Ecology at the University of California Riverside, it is argued that contrary to prevailing theory, California was once carpeted not by native grasses, but by wildflowers, with fields of brilliant orange California poppies visible from the sea. Minnich has surveyed the historical literature to give an account of the changing face of California's vegetation over the past three centuries.

Details of the book can be seen in the Book Notices section.

## Greater plant diversity significantly enhances ecosystem productivity

Scientists at Brown University, Providence, USA, have shown that richer plant diversity significantly enhances an ecosystem's productivity (Flombaum & Sala 2008). The greater the number of plant species, the more productive the ecosystem. Conversely, species loss has a decidedly negative impact on ecosystems.

## References

Flombaum, P. & Sala, O.E. (2008). Higher effect of plant species diversity on productivity in natural than artificial ecosystems. *Proceedings of the National Academy of Sciences* 105: 6087-6090. [www.pnas.org/cgi/content/short/105/16/6087](http://www.pnas.org/cgi/content/short/105/16/6087)

Media release:  
<http://news.brown.edu/pressreleases/2008/04/ecosystem-biodiversity>

## Predictions for rate of species extinction in animals too low

Mathematical studies for the prediction of rate of extinction of a species have been revised to take into account random differences between individuals in a given population (Melbourne & Hastings 2008). These differences, including variations in male-to-female sex ratios and size or behavioural variations between individuals, can influence survival rates and reproductive success of a species. Inclusion in the study has had a larger than expected effect on extinction risk calculations, since it is now indicated that the risk for natural populations of endangered species may have been underestimated by as much as 100 times.

The National Science Foundation funded the study by scientists at the University of Colorado and the University of California published in the July 3 issue of *Nature* but the study has received a lot of other media coverage.

## Reference

Melbourne, B.A. & Hastings, A. (3 July 2008). Extinction risk depends strongly on factors contributing to stochasticity. *Nature* 454, 100-103

Media release:  
[www.colorado.edu/news/r/efcb5fcc44583874f06555c219320316.html](http://www.colorado.edu/news/r/efcb5fcc44583874f06555c219320316.html)

## Developing a standard terminology for conservation biology

There have been several independent efforts to develop standard classifications for the direct threats that affect biodiversity and the conservation actions required to counteract these threats. Recognizing that it is far more effective to have only one accepted global scheme, the authors merged these separate efforts into unified classifications of threats and actions. Each classification is a hierarchical listing of terms and associated definitions. These classifications were tested by applying them *post hoc* to 1191 threatened bird species and 737 conservation projects. Almost all threats and actions could be assigned to the new classification systems, save for some cases lacking detailed information. The new classification systems provided an improved way of analyzing and comparing information

across projects when compared with earlier systems. [*Reduced abstract from the web page*].

## Reference

Salafsky, N. Salzer, D. Stattersfield, A.J. Hilton-Taylor, C. Neugarten, R. Butchart, S.H.M. Collen, B. Cox, N. Master, L.L. O'Connor, S. & Wilkie, D. (2008). A Standard Lexicon for Biodiversity Conservation: Unified Classifications of Threats and Actions. *Conservation Biology*. OnlineEarly Article available at [www.blackwell-synergy.com/doi/abs/10.1111/j.1523-1739.2008.00937.x?journalCode=cbi](http://www.blackwell-synergy.com/doi/abs/10.1111/j.1523-1739.2008.00937.x?journalCode=cbi)

## The future of taxonomy?

The European Distributed Institute of Taxonomy (EDIT) have produced a vision for the future of taxonomy. Their report, *Taxonomy in Europe in the 21st Century* (Web ref.), has been released for discussion by the scientific community and general public.

Overall conclusions of the report are:

- That taxonomy faces exciting challenges and opportunities in the future to meet the demand for an ever more profound understanding of the diversity of life on this planet, how it developed and the impact of increasingly destructive human activity including climate change, factors that are predicted to have an enormous negative influence on the diversity

and distribution of biodiversity (the biodiversity crisis)

- Pivotal to the development of taxonomy are the rapidly expanding fields of high throughput DNA sequencing, automated digital data-gathering and biodiversity informatics. Incorporating these technologies will be critical to the science of taxonomy.
- Scientific collaborators and users of taxonomy will require new ways of working and interacting with taxonomists. It is essential that taxonomists and their users respond to this need. Taxonomists integrated into interdisciplinary teams will be an essential way of working.
- Although an ever expanding repertoire of theoretical and practical tools is available to taxonomists, unheralded in the history of the subject, there will have to be substantial, even radical, changes in how taxonomy is done and its supporting infrastructure operated, to exploit these opportunities to the full. "Business as usual", even if scaled up, is simply not an option.

Web ref.: [www.e-taxonomy.eu/files/Taxonomy21report.pdf](http://www.e-taxonomy.eu/files/Taxonomy21report.pdf)

[*Original information from Taxacom website where there is also quite a lot of discussion on some aspects of this report in the May 2008 Archive.*]

# CHAH Inc. business

## Australian Plant Census: June 2008 update

**Brendan Lepschi and Anna Monro**  
Australian National Herbarium, Canberra

Progress continues on the APC project. Compilation of the final list for Poaceae is nearly complete, with a check being made in APNI and the various censuses for any genera that have been previously overlooked. This has revealed such gems as *Kikuyuchloa* H.Scholz and *×Festulolium* Asch. & Graebn. although thankfully most of the novelties are considered synonymous. Compilation of the final installment of Myrtaceae is well underway, with approximately one-third of the remaining genera completed. In the process, a worthy contender for the official title of "Taxon With Most Synonyms" has emerged—*Calytrix tetragona* Labill., with a current total of 58 synonym entries. This blows the nearest rival, *Acacia paradoxa* DC., out of the water with its paltry 46 synonyms. The numbers for *Calytrix* are to a large extent bolstered by the tortuous orthography used in this genus. Construction of this list has resulted in the compiler seeing the word "Calytrix" everywhere, including on the sign for the local branch of a company, Calytrix Technologies (Web ref. 1). They count among

their achievements "the blending of creative and passionate technology experts with experienced military professionals". This combination of information technology with military precision, and their philosophy of finding "another way, a better way" aligns strongly with the ultimate goal of the APC.

Our medium-term compilation plans include the Rhamnales and Polygalales, papilionoid Fabaceae, a list for the taxa included in the most recent batch of weed profiles co-ordinated by CHAH, and the third list updating previously-treated groups.

At the time of writing, recruitment is under way for a 16-month "Family Planner" position. One of the major tasks of the person selected will be building a family-level classification for the APC, using APG II (Angiosperm Phylogeny Group, 2003) as a framework, which will replace the "modified Cronquist" system currently in use. This framework will include a listing of genera within families and cross-referencing other major



family classifications in use in Australia. This should help to address the concerns of Working Group members and users regarding differences in the systems in use across Australian herbaria.

Other staffing changes in the APNI/APC team include the completion of short-term contracts by Ewa Slipinska and Terri Weese, who have been working on data entry for APC lists and secondary references for APNI. Their efforts have been greatly appreciated, as have those of Annabel Wheeler (ABRS) who will continue to devote a portion of her time to APC.

There may be an opportunity for the compilers and APC Working Group members to meet during

the upcoming ASBS conference in Adelaide. If Working Group members have any issues they feel should be discussed at this venue, please let us know.

As always, please continue to address any APC queries, comments and related correspondence to *both* of us: [Brendan.Lepschi@csiro.au](mailto:Brendan.Lepschi@csiro.au) and [Anna.Monro@csiro.au](mailto:Anna.Monro@csiro.au).

## References

- Angiosperm Phylogeny Group (2003). An update of the Angiosperm Phylogeny Group classification for the orders and families of flowering plants: *Bot. J. Linn. Soc.* 141: 399–436.  
Web ref. 1. [www.calytrix.com](http://www.calytrix.com)

# Miscellanea

## News from the Australian Tropical Herbarium (CNS)

Darren Crayn

Ah, Cairns in winter... what a delight. Warm dry days, cool nights with occasional light rain. Such a lovely place to live and work. Sometimes I find it difficult to resist the urge to go bush in this Edenesque environment and get on with the business of establishment of the Australian Tropical Herbarium. Engineering a cycling accident and a broken clavicle has effectively resolved the tension by eliminating one of the options.

Since my last report we have established CNS as our official *Index Herbariorum* code. Correspondents should use this code for all herbarium related business.

The first flush of activity for CNS has been rather intense. Interest from the public and the profession has been so strong that the burden on staff of the continuing high visitor volume is impacting seriously on establishment tasks and routine curation of the collections. During the first seven weeks of its operation (March 31 to May 19), CNS received 192 visitors: 46 scientific visitors, one group of 22 James Cook University (JCU) students, one group of 47 school students, and one group of 23 local science teachers and school principals. Traffic has abated somewhat since then, particularly students, but scientific visits remain strong. We have recently advised local stakeholders that until the establishment phase is complete the herbarium will be closed to visitors on Mondays and Fridays. There will be some flexibility in this policy to allow for e.g. interstate or international visitors on tight schedules.

Mr Ashley Field has been working furiously on the fern module of the *Rainforest Key*, with help during a short visit from John Connors (CANB)

and Peter Bostock (BRI) during June. Work on the herb module of said Key is rapidly progressing with the recent appointment of Mr Fanie Venter to this task.

The volunteer program has been established. Relevant policy is in place and several volunteers have been recruited. A considerable number of other potential volunteers have indicated interest, but these are yet to be put to work pending the development of suitable tasks and areas. A major impediment is re-establishing a fully functional specimen database to allow specimen labelling etc. Work continues on the folding of QRS's Foxpro database into CANB's Oracle system so that it can be accessed by CNS staff via a secure web link. The resolution of name mismatches between the two databases is the main challenge.

Preparations for the deployment of CNS's Public Reference Collection continue. Representative specimens of some 1500 spp have been set aside by Frank Zich, drawn mainly from undistributed duplicates lurking in the main collection, and JCU Cairns's class reference set adds a number more. Once we have finalised the format and obtained all materials volunteers will be recruited to the process of creating the PRC (mounting, compiling, labelling etc.).

Two new staff positions were advertised in late June: a technician to run the molecular lab and assist with molecular research, and a personal assistant to the Director. Applications for the PA position will have closed by the time you read this. Applications for the lab technician remain open until July 25. Interested parties are strongly encouraged to apply (see Web ref. for details).

Web ref.: [http://cms.jcu.edu.au/jobs/searchjobs/JCUPRD\\_033852](http://cms.jcu.edu.au/jobs/searchjobs/JCUPRD_033852)

## W.H. Harvey and his "Travelling Sets" of Australian marine algae

**Bryan Womersley**  
State Herbarium of South Australia

When Trinity College, Dublin, phycologist William Henry Harvey made his extended collecting trip to Australia, from 7 January, 1854 (arriving King George Sound) to 15 June, 1855 (departing Sydney), he carried with him seven books of algal specimens from Australia. These specimens were often 4 or 5 per page and were glued on the relatively flimsy pages; they were probably all collected by Harvey's correspondents (such as George Clifton and Ronald Gunn) prior to his visit. Each specimen was numbered, usually in pencil and the locality and name written on the sheet. During his travels Harvey collected very extensively along the southern coastline and many specimens were effectively added to the Travelling Sets as separate sheets; many of these are filed in the Algal Herbarium of Trinity College, Dublin (Harvey's main herbarium), but large numbers were presented to Mueller (in MEL) in 1854 by Harvey, probably on several occasions while Harvey was based in Melbourne.

In 1952 I studied Harvey's types of Australian marine algae in Trinity College, on a visit of several weeks. The Travelling Sets were of particular interest and brief comments on them were made in 1959 and in Part 1 of my Marine Benthic Flora (Womersley 1959, 1984). Later, over many years, Doris Sinkora (MEL, now retired) and I gradually compiled a list (based on the MEL specimens) of the Travelling Set numbers and names, from one to about 540.

In January this year, Robyn Barker brought to my notice that Professor John Parnell, Herbarium, Trinity College, Dublin, had listed and imaged the specimens from the 7 books of the Travelling Set

in TCD, and he kindly made his lists and images available to me (on CD). Since then we have been cooperating on compiling a list, with names as now recognised, of all the (almost) 600 numbers in the Travelling Sets as found in Trinity College and MEL. It is now apparent that Harvey added specimens to his Travelling Sets, often from later localities, and in some cases had 2 or 3 different species under the one Travelling Set number.

The main task remaining for this compilation is to check the MEL data base of their algae for Harvey Travelling Set numbers and record the MEL number in the list.

As well as showing what Travelling Set numbers are held in TCD and MEL, the list also records when the TCD specimen is the Holotype or has been selected as Lectotype (usually by H.B.S.W. in 1952), gives the book number (0 to 6) and number in each book as in TCD, and gives the current name as in the appropriate volume of "The Marine Benthic Flora of southern Australia".

It is hoped that the list can be published as an aid for studies involving Harvey's Travelling Sets.

### References

- Womersley, H.B.S. (1959). The marine algae of Australia. *Bot. Rev.* 25: 545-614.  
Womersley, H.B.S. (1984). *The Marine Benthic Flora of southern Australia*. (Government Printer: South Australia).

## PhD scholarship available

A PhD scholarship is available in the discipline of plant systematics and evolution, for the study of generic limits within the *Astroloma-Styphelia* clade and an assessment of the phylogeny and evolution of Ericaceae subfamily Styphelioideae. Patterns of relationship will be studied at genus and species level within this problem clade of Styphelioideae using a range of nuclear and plastid molecular markers. There will also be scope for study of relevant phenotypic characters such as pollen features. The taxonomic assessment and publication of poorly known and/or undescribed species of high conservation value will be a priority.

The project offers considerable fieldwork in southwestern and southeastern Australia and the opportunity to be based in Cairns or Sydney (or a combination thereof) under the joint supervision of Prof. Darren Crayn, Australian Tropical Herbarium (James Cook University, Cairns) and Dr Elizabeth Brown, National Herbarium of New South Wales (Sydney).

A more detailed outline of the project is available from [elizabeth.brown@rbgsyd.nsw.gov.au](mailto:elizabeth.brown@rbgsyd.nsw.gov.au)

Interested applicants should supply a resumé (including academic transcript) to Darren Crayn [darren.crayn@jcu.edu.au](mailto:darren.crayn@jcu.edu.au) as soon as possible. The position will remain open until filled.

## ABLO report

Being ABLO is a little like a metaphor of life. I vaguely remember leaving Australia and that wonderful flight to Heathrow, full of hours of sleep, being fed, good company. The spring and early summer flowers (tulips, *Narcissus*, and glorious peonies, etc.) are but a distant memory, summer is drawing to an end (blackberries again are in fruit), and the horse chestnut leaves have their now usual *Guignardia* Leaf Blotch (Web ref. 2). The days pass as quickly as they are long, though even they are foreshortening...

This report was drafted in a great boarding house in Leiden not far from the Nationaal Herbarium Nederland, Leiden University branch (L)—the seagulls (canal gulls) plaintive call in the background evoking memories of a post-war Hayley Mills film—and was continued at Kew in the wake of a draw at Lord's between England and South Africa.

### Visitors, hosted or facilitated by ABLO, and requests

Visitors have included David Mackay (botanical artist from Armidale), Margaret (voluntary librarian at NE, and School Librarian at Newling Primary, Armidale) and Chris Cooper (former member of Botany, UNE and now in the Faculty finance office); Delny Britton (former postdoc at UNE, now alternative health practitioner in England) and Chris Rouan (Head of Biology, Cheltenham College); Elizabeth Cooper (botanical artist, Sydney); Ray Cranfield (Conservation officer DEC, WA, lichenologist and Churchill Fellow); Don Schofield (horticulturist, Mt Tomah); Bernice Barry, Mike Rumble, Peter Gherardi, Jennifer Gherardi (WA 'friends of Georgiana Molloy'); Rowan Brownlee (efloras, databases, University of Sydney); Prof. Paul Adam (UNSW).

Herbarium requests have come from AD, BRI, CANB, CHR, DEC WA, DNA, JCU, KPBG, MEL, Murdoch Uni, NE, NSW, Uni of Adelaide, and WELT. Library requests have been fulfilled for ABRS, AD, BISH (Flora of Australia), BRI, CHR, K, KPBG, NSW, PERTH, UWS. Most institutions listed have provided multiple requests. The visitors (at least four next week) and requests, continue to arrive.

### Events and news

The Shirley Sherwood Gallery was officially opened on 17<sup>th</sup> April 2008 by Sir David Attenborough after brief, complementary and equally good speeches by patron and collector, Dr Shirley Sherwood, and director of RBG Kew, Prof. Stephen Hopper. The collection is a thoughtfully



Jeremy Bruhl at Kew

Ph. Barbara Mackinder

curated presentation of part of Shirley Sherwood's private collection of contemporary botanical art melded with representatives of Kew's historical collection of botanical art. The building works well and the exhibition is a treat.

The Chelsea Flower Show in May, was well attended and received all the usual publicity. The 'Best of Show' garden sparked a run on hornbeam treelets pruned to 'cloud' formation. The colourful Jamie Durie designed Australian garden attracted considerable attention and a gold medal certificate. Inside stunning displays were the norm, with Kirstenbosch Botanic Gardens and the British Alpine Society two of many highlights.

Back at Kew, the 'order beds' are being redeveloped (APG2) and new diploma of horticulture student vegetable display plots have been established between the Jodrell Laboratory and the 'order beds'. The vegetable plots have already produced bumper crops.

The Rhizotron and Treetop Walkway (Web ref. 3) were opened 24 May 2008 (web ref. 4) as the centre piece of the 'Explore the treetops' exhibition. Inside the Gardens, close to the Victoria Gate entrance, there is a related display of anatomical structures of wood carved from

and into a fallen tree. This is 'good theatre' and a great educational tool. There is a great display of associated colour enhanced scanning electron microscope images in the Nash Conservatory

Planning for the move of the main vascular plant herbarium at the Natural History Museum (BM) is well underway and there will be notification from BM via TAXACOM and ABLO as access to the collection is likely to be suspended from December through to April. Please consider this when making requests to ABLO. Work on the new wing at K continues to provide some disruption and there is likely to be some major disruption with the movement of specimens into the new wing. The Marianne North Gallery is currently closed for structural renovation, but the Shirley Sherwood Gallery, next door is open to visitors.

Prof. David Mabberley, Keeper of the Herbarium Library, Art and Archives at Kew arranged a celebration of the contribution of associates and volunteers with special mention of long-term (>20 years) contributors in June (Web ref. 5). It's the annual Kew Staff party tonight and the sky is threatening, but the show (jazz band) must go on.

#### **Are you visiting Kew and BM before or after Monocots4**

Particularly in the lead up to and following Monocots4 conference in August 2008 there are bound to be numerous visitors to K and BM. If you are planning to visit either/both herbaria, please let me know as soon as possible when you hope to visit, which groups you hope to view and whether you have made contact with K staff already. If you have already arranged a visit, especially if to K, directly with the K staff, may I ask you to please let me know, so I can be aware of your visit and potentially assist you with it.

There is useful information about visits to K and BM on the ABLO website (Web ref. 6).

#### **Visits to herbaria, institutions and fieldwork**

The Natural History Museum London Herbarium (BM) is spread across several separate areas. The main vascular collection, including Australian and New Zealand material, is in a different hall from the 'European collection' and the 'cryptogam collection'. I had the pleasure of seeing 'the other two collections' earlier this year and a discussion with Alison Paul in cryptogams about BM's integrated approach to pest management and the move of most of the herbarium to the new Darwin Centre on site. I also enjoyed several discussions with author David Moore (Vallance et al. 2001).

Along with my family, I travelled 24 May to 1 June to Zürich and Florence to their respective herbaria. We stayed with the Linders and were able to travel to close-by sedge rich meadows and spend a day in the mountains and catch *Soldanella*, *Globularia*, *Crocus* and *Gentiana* in flower. Zürich Herbarium (Z) is located within the Botanical Institute in the grounds of the Botanic Gardens of the University. The electric compactus are superb and the collection rich in Australian material for the groups I investigated. Dr. Edwin Urmi and Dr. Reto Nyffeler helped me in the Herbarium and Prof. Peter Linder facilitated my visit to Z. We travelled by train from Zürich to Florence which gave splendid views and a good sense of the difference between Switzerland and Italy. Florence was already busy with tourists, but gelato provided some consolation. Dr Piero Cuccuini and Dr Chiara Nepi facilitated my visit and Mr Giorgio Padovani was very helpful retrieving specimens and attending to my needs



The new Shirley Sherwood Gallery

Ph. Jeremy Bruhl

in the University Herbarium in Florence (FI). Both the general and Webb herbaria at FI proved highly useful.

Late June, I travelled to Edinburgh to look for *Schoenus ferrugineus* and work at the herbarium (E). I was most fortunate to travel with Barbara and Duncan Mackinder to Ben Vrackie in Perthshire in search of *S. ferrugineus*. We were armed with a locality for this nationally rare plant (widespread through the Continent) and found the population healthy and flowering profusely. We also saw other sedges including *Eriophorum*, *Trichophorum*, *Carex*, and *Isolepis*.

Urgent requests took me back to the Cambridge University Herbarium (CGE), and I continue to visit the BM as often as possible.

Recently I visited Leiden Herbarium, which is part of the Nationaal Herbarium Nederland (Web ref. 7). My caffeine levels were maintained due to frequent coffee breaks with Prof. Peter van Welzen. Together with his PhD student Kanchana Pruesapan we had productive discussions on Phyllanthaceae.

I was able to meet with Kingsley Dixon to talk Cyperaceae during his recent visit to Kew. More extended discussions were possible with Alex Vrijdaghs from Leuven. Alex has carried out considerable and superb SEM developmental studies in the Cyperaceae and together with morphological and molecular systematist, Muasya, from University of Cape Town, we spent a long Sunday discussing different interpretations of floral homology and sharing ideas on Cyperaceae systematics.

### Research

The last few weeks has seen a visit of cyperologist Muasya and we spent considerable time working together and with Dave Simpson on phylogeny and character evolution in Cyperaceae. I am wrapping up my research efforts and largely focussing on analysis of datasets and preparation of talks with colleagues in the lead up to Monocots4 in Copenhagen.

I made a presentation 'Floral development in Cyperaceae' to the July monthly meeting of the Micromorphology section of the Jodrell Laboratory. On June 11, I presented a seminar 'Systematic and biological studies in Cyperaceae' at the Natural History Museum, Botany Seminar series. This week I gave a general presentation 'Degusting Biodiversity' at Kew providing a more general view of Australian, north-eastern NSW and cyperaceous biodiversity and examples of research and student projects with which I have been involved.



Exhibit in Explore the treetops exhibition

Ph. Jeremy Bruhl

### Ecological restoration as a strengthened theme at Kew

A significant 'Restoration Ecology Workshop' was held at Kew from 16 - 18 June, led by Prof. Steve Hopper with invited speakers including George Gann and Jim Harris (The Society for Ecological Restoration), Richard Hobbs (Ecosystem Restoration Laboratory, Murdoch University), Kingsley Dixon (Kings Park & Botanic Garden), James Aronson (Missouri Botanical Garden); other keynote speakers were from Kew: Paul Smith (Millennium Seed Bank), William Milliken (HLAA), Mike Fay (Jodrell Laboratory) and Nigel Taylor (Horticulture). Expect to see more on this topic from Kew in the future.

### Upcoming and further information

There is still an outside possibility I will get to Belgium and Wales to visit people and herbaria. Check my blog for updates (Web ref. 8). If you want to try to get me or the next ABLO to visit a particular herbarium, email me directly (ABLO@kew.org).

### On the home front

The boys having been playing cricket at Kew Cricket Club on the Green. A highlight for the boys was a trip to Legoland! Sadly, I will never know how wonderful it was.

### References

- Vallance, T.G., Moore, T.D. & Groves, E.W. (2001). *Nature's Investigator: The Diary of Robert Brown in Australia, 1801–1805*. (ABRS: Canberra).
- Web ref. 1: <http://picasaweb.google.com.au/jbruhl/ASBSNewsletterJuly2008?authkey=QG3XngDxHyU>
- Web ref. 2: [www.londongardenstrust.org/index.htm?features/chestnut.htm](http://www.londongardenstrust.org/index.htm?features/chestnut.htm)
- Web ref. 3: <http://apps.kew.org/trees/>

Web ref. 4: [www.kew.org/press/treetop\\_environment.html](http://www.kew.org/press/treetop_environment.html)

Web ref. 5: <http://picasaweb.google.com.au/jbruhl/20080619HLAACelebrationNashConservatory?authkey=SKpXbfHIHnE>

Web ref. 6: [www.environment.gov.au/biodiversity/abrs/admin/ablo/visits.html](http://www.environment.gov.au/biodiversity/abrs/admin/ablo/visits.html)

Web ref. 7: [www.nationaalherbarium.nl/#NHN](http://www.nationaalherbarium.nl/#NHN)

Web ref. 8: <http://jeremybruhl.blogspot.com/>

Jeremy Bruhl

*Jeremy has a slide show of images to accompany this article. They can all be seen at Web ref. 1 and have the distinct advantage of being in colour. Eds.*

## Book reviews

Richard Schomburgk:  
explorer and Botanic Garden director

Philip Short  
Northern Territory Herbarium

***The Diplomatic Gardener. Richard Schomburgk: Explorer and Botanic Garden Director. By Pauline Payne (2007). Jeffcott Press: North Adelaide, South Australia. ISBN 9780646485287 (soft cover, A4 size).***

For about four years I spent most of my time as a student working in the State Herbarium of South Australia, then a splendid, purpose-built structure situated in the south-east corner of the Adelaide Botanic Garden (henceforth ABG). This meant that I spent time in the Garden, often just passing through to the car, shops or University, other times looking at various plants. But while I had some general knowledge of the history of the gardens I certainly did not appreciate the extent to which the subject of this book, Richard Schomburgk, had developed and shaped it, and knew virtually nothing of his background. Several years ago, searching the shelves of the library of the ABG, I chanced to come upon a copy of Pauline Payne's thesis, *Dr Richard Schomburgk and Adelaide Botanic Garden 1865–1891* (Payne 1992). I looked into it briefly to see if there was mention of his affiliation with a Top End collector by the name of Frederick Schultz (also as Schultze and Schulze). There was, and I (Short 2006) subsequently referred to it in a note concerning the recognition of *Cleome linophylla* in the N.T. Thinking at the time that a more publicly accessible work on Schomburgk would be a good thing I was delighted to see that Pauline has privately published *The Diplomatic Gardener*. I'm now well versed on the man; he achieved a lot and I'm sure Pauline is proud of her ancestor.

So what does it contain? Following on from the usual acknowledgments and introduction, we first learn of Richard's early life in Saxony. He was born there on 5 October 1811 and trained as a gardener, and after a period of military service in the Prussian Royal Guard at Berlin, worked in the gardens of King Friedrich Wilhelm III's palace in Potsdam from probably 1835 to 1840. It was during these years that he met his future wife, Pauline Kneib. While Richard was doing this, his elder brother Robert was acquiring a reputation as a competent naturalist and hydrographer. His hydrographical work in the British West Indies brought him to the notice of both the British Admiralty and the Royal Geographic Society, with the latter subsequently commissioning him to explore British Guiana (now Guyana) during 1835–1839. That expedition was successful and Richard was to subsequently join Robert on a second expedition to British Guiana in 1840–1844. It was through Robert's associations – and also those of another brother, Otto – that Richard came to know influential men, not the least of whom was Alexander von Humboldt.

Chapters 2 and 3 (pp. 17–65) of the book are devoted to the British Guiana expedition, the main aim of which was to accurately define the boundaries of the country; but considerable time was available for the collection of specimens of natural history and for the expedition artist to capture images of landscape and people. It is very much a chronological précis of Schomburgk's experiences as taken from his *Reisen in Britisch-Guiana in den Jahren 1840–1844* [*Travels*] and I found it to be an interesting account of a natural

history collector in tropical South America, with obvious parallels with the likes of Spruce, Wallace and Bates, all of whom had to battle at times with debilitating climate, uncooperative natives, biting insects and disease. Indeed, disease nearly brought a premature end to Richard's life. Soon after his arrival in Guyana, Richard contracted yellow fever. He reached the 'black vomit' stage, a stage where bookmakers offer low odds for recovery, but recover he obviously did, as he was to live for 79 years while Robert died aged 60. Illnesses contracted during years of travels and diplomatic postings in tropical countries (including Thailand) possibly took their toll, but Robert apparently died of heart disease (as did another brother, Otto, at the age of 48).

Chapter 4 deals with Richard's return to Europe in 1844, the publication of his three-volume *Travels*, the decision to emigrate to South Australia, and his life as a farmer at Buchsfelde, near Gawler, from 1849 to 1865. We learn, for example, that the Schomburgks gathered about 10,000 plant specimens in Guyana and that "The family name of Schomburgk is used for three genera, two orchids and one of the Compositae (the daisy family) and it is used in 256 species names ... sometimes the family name is misspelled, so we see that, in addition to Schomburkia or Schomburgkii, there is also Schomburghia and Schomburgkia as part of species names", which is a bit misleading as only the orchid genus *Schomburgkia* Lindl. is legitimate, it being named after Robert. I also suspect that, given all of the combinations listed in *ipni*, that the number of specific epithets honouring one or other of the Schomburgk brothers is also a tad high; although high it undoubtedly is. And Richard was to add to his personal list of epithets during his time in South Australia. During his time in Guyana, Richard didn't just collect plants, but also zoological specimens and while farming he gathered a collection of reptiles and frogs in the environs of Adelaide and sent them to Wilhelm C.H. Peters in Berlin. From these collections Peters named 15 apparently new species, with ten still recognised. Two of the species were frogs (the Eastern Banjo

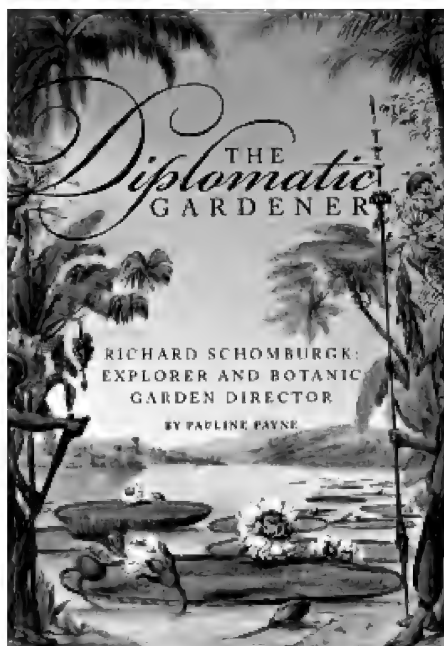
Frog with its distinctive liquid-sounding "plonk", and the Trilling Frog), two were snakes (the highly poisonous Myall Snake and the harmless Rough-nosed Blindsnake) while the remaining were lizards. The latter group included a species named *Ctenotus schomburgkii* and another, *Egernia richardii*. However, the name that took my attention was *Tiliqua adelaidensis*, the Pygmy Blue-tongue Lizard. On reading this I vaguely remembered an impeccable source of information – my mother – mentioning during one of our

weekly phone calls something about this little creature. I'd forgotten just what, and allowed myself to be side-tracked from the book. A visit to the Web soon had me reading several papers and I learnt, among other things, that the Pygmy Blue-tongue was rediscovered in 1992, when a specimen was found in the stomach of a brown snake; that it is now known from several small populations in the vicinity of Burra; that individuals live in abandoned vertical burrows of both Wolf Spiders and Trapdoor Spiders and their relatives; and that when it comes to sexual pursuits the male isn't into the equivalent of sending flowers, wining and dining, visits to the theatre or indeed anything to win the heart of his girl. No indeed. "Anecdotal observations ... suggest

that males have behaviours specifically adapted to extracting females from their burrows ... the male anchors [his] tail around grass clumps and then attempts to pull the female from her burrow" (Milne *et al.* 2003, p. 527). If that fails, he simply pursues the female and grasps her in the open. The things you learn when you allow yourself to be side-tracked!

Wine buffs may be interested to know that during his time in the Barossa region "Richard made a white wine from Madeira and Verdelho grapes and a red wine from Mataroa grapes, 'both of which are considered excellent wines', according to a review of vineyards published in 1862." (Payne 2007, p. 76).

In 1865, at 54, Richard was still full of energy and a man of many skills and after the death of George Francis, the first Director of the ABG, Richard succeeded him as Director and commenced to



build on Francis's legacy. Much of what we see today is attributable to Schomburgk, including the majestic Moreton Bay Figs on the northern edge of the Gardens, the mature conifers, the Temperate forest in the north-east corner, the tropical house (recently reconditioned and now known as the Schomburgk Pavilion), and by no means least the Museum of Economic Botany. (Today, at the back of the Museum, there is the Schomburgk Pavilion, which offers a variety of services for visitors.) He also grew *Victoria amazonica* in the Garden – a species still prominent in Garden promotions – and had a large Experimental Garden in which trials were carried out to test, among other things, new pasture grasses for introduction. All such information is contained in Chapter 5, "The golden years at Adelaide Botanic Garden".

Having praised Schomburgk I must also mention more of George Francis's legacy. Pauline rightly devotes space to the pre-Schomburgk days and praises Francis who developed the basic plan of the gardens, including development of the waterways, and who "with his tenacity and enthusiasm ... was particularly well-suited to the role of founding superintendent" (Payne, p. 87). Although there is a biography (Best 1986, *n.v.*, Robyn Barker *pers. com.*) his most important pioneering work seems not to be so widely known as Schomburgk's and it is only fitting that it is acknowledged in *The Diplomatic Gardener*.

Chapter 6 "Plants, policies and people" primarily deals with the role Schomburgk and his team of gardeners played in introducing new plants to the State, from trees to crop and fodder plants and dealing with the potential threat of *Phylloxera* to South Australian vineyards. Pauline concludes this chapter with Richard's prophetic words, from his 1875 *Flora of South Australia*:

The finest grapes are grown on the plains; here they ripen to great perfection, and the South Australian wine must soon obtain a high character in the foreign markets.

As she noted it took a long time, but they have undoubtedly arrived!

Chapter 7 deals with the world of science in which Schomburgk worked, and includes such topics as government support, environmental issues, forest tree reserves and the exchange of plant material between botanic gardens, and Schomburgk's own contribution to the plant sciences. Chapter 8, entitled "The diplomatic gardener" deals with Schomburgk's personality, how he managed to work harmoniously with both his Board, the government, nurserymen and the general public and ends with a summation of the Schomburgk family in South Australia followed by a brief note on his later years. It was here that I learnt that Schomburgk was also one of those men purported to have an unusual handshake and wear an apron. As such he came to be friends with

an ancestor of mine, Sir Edwin Smith – among other things twice Lord Mayor of Adelaide and a major philanthropist – with whom he worked to improve civic amenities.

When reading this book I became side-tracked on more than one occasion, not just by mention of the Pygmy Blue-tongue Lizard. Here's a bit more information on Richard Schomburgk which you will not find in *The Diplomatic Gardener* but may be of interest.

As already mentioned, when writing a note concerning the reinstatement of the name *Cleome linophylla* I had consulted Pauline's thesis concerning the collector Schultz. Frederick Schultz, and his son Alfred, were members of George Goyder's survey party of Darwin, Frederick remaining in Darwin from late December 1868 to perhaps May 1870. Presumably both collected specimens but in both unpublished and published lists (seen at K) of specimens all are attributed to Frederick. The specimens themselves were not forwarded directly to Kew from Darwin, but were first sent to Schomburgk in Adelaide before being redirected to K. In her thesis (Payne 1992) Pauline cited an extract from a letter by Schomburgk to George Bentham. Dated August 1869 it reads:

Surely there will be several new spec. among this series, and I would beg you not to forget to call one or two of the new spec. after the energetic Commander of the Expedition, Mr. Goyder ... This Gentleman by his liberal arrangements and animated by a zeal for Botany we have to thank a good deal for these satisfactory results. Also Mr. Schultz the indefatigable collector deserves this honour, that some plants are called after him. There is a third claimant for the same honour, that is my own little self (I may be wrong) but I may say, all that has been done, was undertaken at my request. I assure that I had not a little trouble to convince my Government of the importance to science if a collector was attached to the Expedition.

On checking some of my botanical notes I found that Schultz collected type specimens for at least 33 new species and of these Bentham described ten, eight of which were named after Schultz, none after Schomburgk! However, the botanist Schindler did base his name *Alysicarpus schomburgkii* on specimens gathered by Schultz and Foelsche. Of other Australian plant names honouring Schomburgk I can find only two: *Goodenia schomburgkii* K.Krause (an invalid name) and *Boerhavia schomburgkiana* Oliver. The latter is recognised today, being collected by a Mr Andrews from the vicinity of Lake Eyre but forwarded to Kew by Schomburgk.

I've also noted another interesting Schomburgkian link with Australian botany as a result of reading this book. During the sojourn in Guyana, "Richard decided to take with him two German-born assistants, a man named Stöckle ... and Florenz Bleesor, a lad whose family came from Halle, both fellow Saxons" (Payne 2007, p. 21).



Subsequently we learnt that Bleeser too, settled in South Australia. Despite a different spelling of the surname I thought there had to be a link with Florenz A.K. Bleeser, another important collector of Top End plants and as with Schultz, associated with the collection of specimens of *Cleome linophylla*. Many of Bleeser's important collections were to be destroyed, if not as a result of allied bombing of the Berlin herbarium during World War II, then because of looting of his home following the first Japanese bombing of Darwin in February 1942 (e.g. Short 2006). Anyway, Fielding (1990, p. 23) recorded that "It is reputed that his father at sixteen accompanied the botanist, Dr Richard M Schomburgk, on his explorations in British Guiana during 1840–44, pressing and storing the botanical collections."

Enough of digressions. It will be evident from my opening remarks that much of the information in this book was pulled together for a Ph.D. thesis and, as such, is a well-researched work. This is reinforced by the solid bibliography presented on pp. 186–191. *The Diplomatic Gardener* is also copiously illustrated throughout with both black & white and colour illustrations; the chapters dealing with British Guiana contain many illustrations from the *Travels*, and elsewhere – as one would expect – there are many photographs showing the development of the ABG. They add much to the book although I do have a couple of minor criticisms; I would have liked the dates of photographs to have been included in the captions. To find information on the source and – not always explicitly stated – the date of

photographs, it is necessary to check "Notes on Illustrations" at the back of the book. For my own edification I would also have liked to have seen the inclusion of a modern map of the ABG.

How will *The Diplomatic Gardener* sell? Very well I hope. It is a well-researched, nicely produced book and a fitting tribute to the life of Richard Schomburgk. It should find a home in all public libraries in Adelaide and hopefully in many private homes as well, not just the libraries of universities and botanical institutions. I for one have learnt a lot from reading it; dare I say "no Payne, no gain!"

## References

- Best, B. J. (1986). *George William Francis: first Director of the Adelaide Botanic Garden. A biography*. (Adelaide, SA : Barbara J. Best in conjunction with the Botanic Gardens of Adelaide)
- Fielding, J.P. (1990). Bleeser, Florenz (Flo) August Karl (1871–1942). In Carment, D., Maynard, R. & Powell, A. (Eds), *Northern Territory dictionary of biography, volume one: to 1945*. (NTU Press: Casuarina). pp. 22–24.
- Milne, T., Bull, C.M. & Hutchinson, M.N. (2003). Use of burrows by the endangered pygmy blue-tongued lizard, *Tiliqua adelaidensis* (Scinidae). *Wildlife Research* 30: 523–528.
- Payne, P. (1992). *Dr Richard Schomburgk and Adelaide Botanic Garden 1865–1891*. (PhD Thesis, Faculty of Arts, University of Adelaide).
- Short, P.S. (2006). Reinstatement of the northern Australian species *Cleome linophylla* (O. Schwarz) Pax & K. Hoffm. (Capparaceae), and neotypification of its basionym, *Triandrophora linophylla* O. Schwartz. *Muelleria* 24: 37–43.

## Mabberley's new plant book

Juergen Kellermann  
State Herbarium of South Australia

***Mabberley's Plant-Book: A portable dictionary of plants, their classification and uses.* By David J. Mabberley. Cambridge University Press, Cambridge (2008). xviii, 1021 pp. ISBN 978-0-521-82071-4; AUS\$180**

The long-awaited new edition of the *Plant Book* has been published! The author does not need to be introduced to ASBS members. David has worked here in Australia for a long time and is now Keeper of the Herbarium, Library, Art and Archives at the Royal Botanic Gardens, Kew (although this fact is not reflected on the title page, listing his previous position in the U.S.).

The book, now with the changed title *Mabberley's Plant Book*, is a well known and established reference for everyone dealing with botany. With 1021 pp. (old edition 858 pp.; a 20% increase), the new edition provides information on all families and genera of seed-plants (incl. gymnosperms), as well as ferns and club-mosses. Each of the over

24,000 entries has been updated and revised. An additional 1650 new entries were added, among these a great number of vernacular names and "ecologically or economically significant mosses and stoneworts". The format, layout, size of type and presentation has not changed. Entries are very concise and contain a wealth of information, taking into account the most recent literature, including many molecular studies.

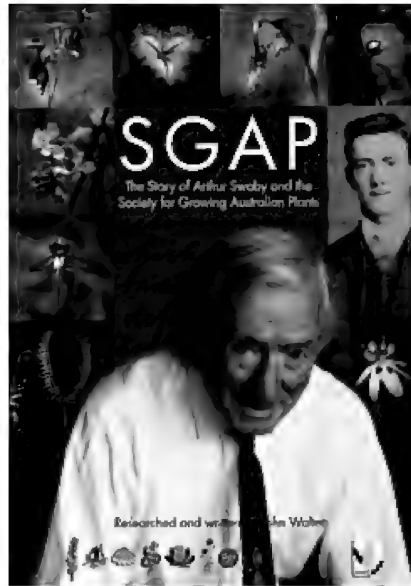
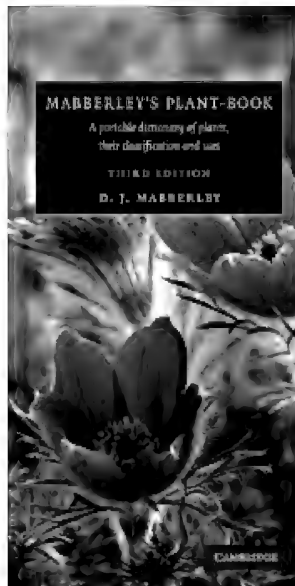
The system employed in the book (outlined in the appendix) follows APGII and Kubitzki's *Families and Genera of Vascular Plants*. The author has generally been conservative; for example, where there is continuing debate, a broad view of families has been taken. He also consulted with botanists at several workshops on the sequence of families (one of which was held at NSW). This arrangement will certainly be referred to and taken up by many institutions.

The last page of the book proves to be a very interesting addition. Here 15 new names and combinations are published in the families Berberidaceae (1 sp.), Urticaceae (1 sp.) and Leguminosae. In particular, new combinations are published for the *Acacia* split-genera *Senegalia* (4 spp.) and *Vachellia* (8 spp.). Although these taxa are referred to in the actual text of the book, some more discussion on the reason for the name change would have been preferable (maybe similar to the *Flora of Australia* appendices).

A major drawback is the price. The publisher must be criticised for charging nearly AU\$ 200 for the tome. The cover text and the publisher's web-site announce the book to be "an essential reference text for *anyone* [my emphasis]

studying, growing, or writing about plants". However, at that price students, gardeners and even professional botanists will think twice before buying *Mabberley's Plant Book*. Hence, the book might not reach the audience it is intended for (another publication that is relegated to institutional libraries?). My advice is to order the book in the United States. With an exchange rate approaching 1:1, you can get it for nearly half the price (even if the postage is added).

As a final note, it is good to see that many Australian botanists are acknowledged in the text, as is the Australian wine industry. Apparently there are 169 jokes hidden in the book. I am sure David would offer a bottle of wine to the avid reader who finds them all.



## A comment on a SGAP historical account

David Symon

State Herbarium of South Australia

***SGAP: The Story of Arthur Swaby and the Society for Growing Australian Plants.* John Walter, Australian Plants Society (SGAP Victoria) Inc, 2007. RRP \$29.95 Softcover, 236 pages, black and white illustrations.**

The development, establishment and extraordinary growth of the Society for Growing Australian Plants (SGAP), now known as the Australian Plant Society, is an interesting social phenomenon. The society has been very much a grass-roots organisation. Professional plantmen

and academics are members but the organisation and running has remained in the hands of the membership rather than any group of "elites".

It is certainly time that a history of SGAP was written and John Walter's book goes a long way in documenting that history with special emphasis on Arthur Swaby who was largely responsible for its initial organisation and philosophy.

Arthur Swaby captured and led a wave of enthusiasm for Australian plants which has continued on for the next half century. John Walter details from archival letters the problems

of establishment to the acrimonious resignation of Arthur Swaby in 1962. Walter records in detail the publication of the journal *Australian plants* and the many useful books and booklets of the society, too many to list here, but including *The Language of Botany*, *Australian Indigenous Orchids*, *Cradle of Incense*, *Australian Plant Genera*, *Plant Life of Kosciusko*, works on Daisies, Brachyscomes, Grevillea and many local florulas.

Dates and some contact details are given of Federal conferences, Federal office bearers, Australian Plant Award Winners, principal state centres, regional branches and active Study groups. Prominent members get a brief listing.

The activities of the society through its meetings, many publications, regular flower shows and sales of plants, have now firmly established the growing of Australian plants as a regular aspect of horticulture, developed further by the

steady stream of named cultivars promoted by nurserymen.

All of this confirms the significant role that the SGAP has played in the post World War II era.

My principal regret in the book is the lack of any consideration of the social and political times in which this flowering developed. Some graphs of the growth of membership, of the regional branches, of the study groups would all enhance studies of that wave of post world War II patriotism.

Has anything similar happened in other countries and colonies, for example in America, New Zealand, South Africa or India, or did they always appreciate their own plants?

*Further information on how to obtain the book and a full review by Tony Cavanagh is available on the web site of the society: <http://asgap.org.au/SGAPbook.htm>. Eds.*

## The gardens of Mauritius

Robyn Barker  
State Herbarium of South Australia

***James Duncan and the Garden of Mauritius*  
By Robert Duncan. Lurs Publishing,  
Edinburgh. 1 Aug 2007. Hardback, 182  
pages. ISBN 978-0955549304**

This book came into our library recently, around about the same time as Pauline Payne's book on Schomburgk and the Adelaide Botanic Gardens (reviewed above). This is not a conventional review of the book but more thoughts prompted by a long interest in Mauritius (or Ile de France as it was then known) and its garden because of its early connections with the French as a halfway house for Australian plants being sent back to France, and some of the more obvious similarities between the Adelaide and Mauritius gardens, and no doubt other colonial gardens of this vintage. I had also had dealings with the typification of *Barleria lupulina* (Acanthaceae) which was first described when it flowered in England from seed supplied by Charles Telfair (also mentioned in the book) from Mauritius. But perhaps the more fascinating connection was that Baudin died on reaching Mauritius on 16<sup>th</sup> September 1803 on his return voyage to France while Matthew Flinders was imprisoned there from December 1803 until March 1810. Not quite another encounter, but almost, and another shared involvement by Mauritius with our early Australian history! In 1821 botanist Allan Cunningham spent 2 months in Mauritius while on Philip Parker King's final coastal survey; King decided to go to Mauritius rather than the usual Timor, for provisions and repair, and while there Cunningham exchanged seeds of Australian plants with the Botanic

Gardens at Pamplemousses (Curry et al. 2002; Crampton 2008).

But of course there are lots more connections. The first to take the eye on opening the book is the fine set of gates at the entrance to the Mauritius gardens – similar to those in the Adelaide Botanic Gardens and no doubt other British colonial botanic gardens of this vintage. These were presumably inspired by the ornate 1845 main gates of Kew with their double gates for carriage entry and side gates on either side for pedestrians. The gates for the Mauritius gardens first arrived there in 1861, apparently having won first prize at the Crystal Palace Exhibition, but were erected in front of the Supreme Court until 1868, before being put to their intended use (Duncan, p. 124). Those in Adelaide were erected in the time of Schomburgk in 1880 and were also of English origin. Both the Adelaide and the Mauritius gates differ from the Kew gates in their metal, rather than stone, piers but resemble them in the elaborate iron-work.

Before moving on to James Duncan, the main subject of this book, there is an excellent, but brief, early history of the island firstly under the Dutch (1598–1710) and then the French (1715–1810) until it was finally handed over to the British as a result of the Napoleonic Wars. It was during the French phase that most of the work was done in establishing the area now occupied by the Botanic Gardens and in 1768 it was described as “one of the marvels of the world” (p. 10) with its multiple introductions of plants from many parts of the globe, but particularly Africa and Asia.

With the takeover of the British the gardens fell into some disrepair, being exploited by one of the long-serving directors, John Newman (1826–1848)<sup>1</sup>, for his own agricultural purposes, and by 1849 when James Duncan arrived to take over it was described as being in a state of wilderness. Duncan had been the head gardener for Earl Grey, Secretary of State for the Colonies, and was not really a happy recruit to the post. Before leaving, he was interviewed by John Lindley to ascertain his suitability and, as with most such appointments, was given instructions as to his duties by William Hooker, even though the latter had no say in his appointment. James Duncan held the post of Director from 1849 to 1865 and in that time the gardens once more became a place of eminence. By the time he completed his work “there was scarcely a botanical establishment of any note in the world that [he was] not in correspondence with”.

Since their timings were slightly different as directors Schomburgk having been director of the Adelaide Botanic Gardens from 1865–1891, comparisons might better be made between Duncan’s exact contemporary, the first Director of the Adelaide Botanic Gardens, George Francis (1855–1865). It was Francis’s 1859 *Catalogue of Plants under cultivation in the Botanic Garden* that inspired Duncan to do the same for the Mauritius garden. As with Francis, Duncan also tried to set up a museum of dried plant specimens, timbers, fibres and seeds, the likes of which can still be seen in Adelaide’s Museum of Economic Botany, although it too, like the gates, is of a later period. Both were based on the requirements of Kew for economic products and similar items could be seen in all three gardens, ranging from the fruits of the coco de mer (*Lodoicea maldivica*) to samples of the fibres produced from various

plants – in one case of the Mauritius Gardens from *Dracaena draco* (p. 126).

There are other similarities between the Mauritius and Adelaide gardens: the same people appear in positions of influence, colonial exhibitions were popular, there was a rapid appearance of weeds soon after the undertaking of agriculture (as well as the famous disappearance of dodos in Mauritius),

labour was a problem as was the stealing of plants from the gardens and the building of a fence, sending plants back to England by sea remained difficult but despite this there was a well-established global exchange network of botanical material – and like Schomburgk and others before him, Duncan made suggestions for the names of plants he considered to be new (p. 102). The laying out of the gardens with stately avenues of trees is another shared trait as were the attempts to grow the fashionable *Victoria amazonica*, seeds of which had been brought back to Europe by Robert Schomburgk in 1837 and were being successfully grown at Kew by 1848. Duncan reported having them growing in a pond in the Pamplemousses by 1855 but their growth with other water-lilies,

whose roots were treated as a delicacy by the Indian gardeners, led to their destruction and the request for further seeds. Francis too had seed by 1856, but here there was a difference since the plants could not be grown successfully outside in the Adelaide climate. A special house was built to house the *Victoria* in the time of Schomburgk (a second house has just been built in Adelaide to house plants grown from newly collected seed from Guyana). In the Pamplemousses Garden in Mauritius there is no such need and the plants flourish in the open air (see photo).

So you can see I haven’t really read the book because of the worthy Mr Duncan but because the history of the Adelaide and Mauritius gardens have so much in common. The observations here could probably be extended to any other British



<sup>1</sup> A name associated with early horticulture in the South Australian colony, but not this person as he died on Mauritius.



The lily pond in the Pamplemousses Botanic Gardens, Mauritius

Ph. Maria Johns

colonial gardens of similar vintage because of the profound influences exerted by William Hooker at Kew.

The book is easily readable, although with some annoying aspects. The main two are the lack of an index and the lack of picture captions. The latter are present but hidden as a list of illustrations at the back of the book. Otherwise this modest book by his great great grandson has served to add the name of James Duncan to the *Authors of Plant Names* (Brummitt & Powell 1992) and there is an assessment of Duncan's only scientific publication, *Catalogue of Plants in the Royal Botanical Gardens, Mauritius*, which is itself rare, by H.J. Noltie of the Royal Botanic Gardens, Edinburgh.

And that leads to a connection to another book reviewed here. The botanic gardens of Mauritius are frequently referred to as the Pamplemousses because of a fruit grown in the area. But what is a pamplemousse – the answer from this book is a big lemon or grapefruit, but Mabberley's plant

book tells us that it is *Citrus maxima*, although the earlier edition referred to it as *C. grandis*. Somehow it seems advisable not to investigate this taxonomy any further!

### Acknowledgement

Thanks to Philip and Emma Short and Bill Barker for comments on an earlier draft of this account and to Maria Johns for providing the photograph of the lily pond today.

### References

- Best, B.J. (1986). George William Francis, first director of the Adelaide Botanic Garden. (Barbara J. Best in conjunction with the Botanic Gardens of Adelaide: Adelaide).
- Brummitt, R.K. & Powell, C.E. (1992). *Authors of Plant Names*. (Royal Botanic Gardens, Kew).
- Crampton, E.V. (2008). +20... *Remembering the forgotten. Rewriting Australian History. The untold stories of John Oxley's 1817 & 1818 Expeditions*. An e-book available at <http://crampton.com.au/+20/+20.pdf>
- Curry, S., Maslin, B.R. & Maslin, J.S. (2002). *Allan Cunningham. Australian collecting localities*. (ABRS: Canberra).

## Book notices

### Systematics and computers

*Systematics as Cyberscience: computers, change and continuity in science*. Christine Hinc. MIT Press: 2008. 320 pp. \$US35.00. ISBN-10: 0-262-08371-X; ISBN-13: 978-0-262-08371-3

An exploration of the use of information and communication technologies by biologists

working in systematics (taxonomy) and the dynamics of change and continuity with past practices in the development of systematics as a cyberscience (Publisher's blurb).

The contents of the book are shown on the web site and the introduction and index to the book can also be downloaded from there.

Web site: <http://mitpress.mit.edu>

## GBIF training manual

***GBIF Training Manual 1: Digitisation of History Collections Data, version 1.0.* by Global Biodiversity Information Facility, Copenhagen (2008). ISBN: 87 92020 07 0**

Chapters are as follows: Introduction; Uses of Digitised Collections Data; Initiating a Collection Digitisation Project; Data Quality; Data Cleaning; Georeferencing; Generalising Sensitive Data; Glossary and Acronym Expansion

Download from web site: [www.gbif.org/GBIF\\_org/GBIF\\_Documents/trainingmanual1/](http://www.gbif.org/GBIF_org/GBIF_Documents/trainingmanual1/)

## Australian gardens what they mean to us

***Reading the Garden: the Settlement of Australia.* Katie Holmes, Susan K. Martin & Kylie Mirmohamadi. Melbourne University Publishing, February 2008. AU \$36.99. 288 pp, PB, 234 x 153 mm. ISBN : 0-522-85115-0 [www.mup.unimelb.edu.au/catalogue/0-522-85115-0.html](http://www.mup.unimelb.edu.au/catalogue/0-522-85115-0.html)**

*Reading the Garden* explores our deep affection for gardens and gardening and illuminates their numerous meanings and uses from European settlement to the late twentieth century. More than just a pastime, the act of garden making has helped migrants create 'home' and an identity in a new place, and we continue to use our outdoor landscapes to preserve the memory of a loved one, feed the family or beautify our surrounds.

From: Melbourne University Publishing website.

## Gods and goddesses in the garden

***Gods and Goddesses in the Garden: Greco-Roman Mythology and the Scientific Names of Plants.* Peter Bernhardt. Rutgers University Press, New Jersey, USA. April 2008. SUS24.95. ISBN 978-0-8135-4266-9 240 pages, 18 illustrations.**

We did ask for a review copy but have had no response from the publishers. You can hear or download an interview with the author at [www.abc.net.au/rn/inconversation/stories/2008/2283741.htm](http://www.abc.net.au/rn/inconversation/stories/2008/2283741.htm)

## California's lost wildflowers

***California's Fading Wildflowers: Lost Legacy and Biological Invasions.* Richard A. Minnich. University of California Press, June 2008. 360 pages, 6 x 9 inches, 23 b/w photographs, 13 line illustrations, 19 tables. ISBN: 978-0-520-25353-7 SUS49.95, £29.95 hardcover on this site, but shop around.**

Web site: [www.ucpress.edu/books/pages/10911.php](http://www.ucpress.edu/books/pages/10911.php)

See also Food for Thought for some comments on this book. A further article about it can be found at the following.

Web ref.: [www.signonsandiego.com/news/science/20080710-9999-1c10flowers.html](http://www.signonsandiego.com/news/science/20080710-9999-1c10flowers.html)

## Botanical art treasures

***Treasures of Botanical Art: Icons from the Shirley Sherwood and Kew Collections.* Shirley Sherwood and Martyn Rix. Kew Publishing 2008. 272pp. 292 x 225 mm. Fully illustrated ISBN 978 1 84246 221 8 (Paperback). £24.95 ISBN 978 1 84246 368 0 (Hardback). £29.95**

This book marks the inaugural exhibition of the Shirley Sherwood Gallery of Botanical Art at Kew, which opened in April 2008. Extensively illustrated and elegantly designed, the book will feature some 200 paintings and drawings from both the Kew and Shirley Sherwood collections, reflecting the richness of botanical art as a whole, providing an overview of the most significant artists from the 1600s through to contemporary artists, and demonstrating the enduring importance of botanical illustration.

From: [www.kewbooks.com](http://www.kewbooks.com)

## New editions on south-east Australian trees

***Rainforest trees of mainland South-eastern Australia.* A.G. Floyd. Terania Rainforest Publishing, Lismore, NSW, 2008, 2<sup>nd</sup> edition, revised. Octavo, dustwrapper, 443 pp., colour photographs and text illustrations. AUS\$75.00**

***Native trees and shrubs of south-eastern Australia.* Leon Costermans. New Holland: Sydney, 2008 reprint. Quarto, paperback, 424 pp., colour photographs, other illustrations. AUS\$45.00**

## Historical Tasmanian collections

***Collection. A publication celebrating the history and objects of the Tasmanian Museum and Art Gallery.* Tasmanian Museum and Art Gallery; Hobart. 2008. \$75.00.**

The publication features 250 objects from the Tasmanian Museum and Art Gallery. Each of the objects was chosen by the curatorial team and they give a feeling for the diversity of the collections. There is also a history of the Museum and the heritage buildings on the site. (Information taken from website).

A flyer for this publication is included with the latest issue of *Kanunmah*. Thanks to Philip Short for drawing this to our attention.

Web site: <http://museumshop.tmag.tas.gov.au/store/viewItem.shop?idProduct=92>

## Climate change and invasive species report

***Climate Change and Invasive Species. A Review of Interactions. November 2006, Workshop Report. Biological Diversity Advisory Committee. Commonwealth of Australia. May 2008***

Tim Low, as a member of the Federal Environment Minister's Biological Diversity Advisory Committee, ran a workshop in late 2006 on climate change and invasive species impacts on biodiversity. The report concludes that climate change will worsen Australia's pest problems.

Download from web site: [www.environment.gov.au/biodiversity/publications/interactions-cc-invasive.html](http://www.environment.gov.au/biodiversity/publications/interactions-cc-invasive.html)

## Websites of interest

### J.E. Smith Herbarium

<http://species.asu.edu/sos.php>

For anyone searching for J.E. Smith herbarium specimens as part of their typifications see the Linnean Society site which lists herbaria where these have been databased.

[www.linnean.org/index.php?id=80](http://www.linnean.org/index.php?id=80)

### Three Australians in the top 10 new species of 2007

Also on the Linnean Society site is the press release concerning the top ten new species described in 2007. The announcement was made on the birth date of Linnaeus by the International Institute for Species Exploration at Arizona State University whose web site is also worth a look, particularly as it expands further on these new species and why they were selected. Amongst the top ten were a ray named *Electrolux*, a fruit bat, a deadly Australian snake, a frog, a Queensland box jellyfish named after its victim, a pink millipede and a new fungus from the grounds of Imperial College, London. Plant honours went to Kelly Shepherd's and Stephen van Leeuwen's Michelin Man™ samphire species, *Tecticornia bibenda*, from the Little Desert in WA (described in *Nuytsia* volume 16).

[www.linnean.org/index.php?id=403](http://www.linnean.org/index.php?id=403)  
<http://species.asu.edu/topten2008.php>

### State of Observed Species report

The first annual State of Observed Species (SOS) report is able to be downloaded as a pdf from this site. Combining with the International Plant Names Index (IPNI), the International Commission on Zoological Nomenclature (ICZN) and the publishers of Zoological Record, the International Institute for Species Exploration (see above), plans to report each year on the birth date of Linnaeus on the growth of knowledge of the Earth's species. This first report documents the description of 16969 new species in the calendar year 2006. While this is clearly an understatement because microbes, and apparently fungi, are not included, this is still an impressive figure. Leading numbers for new plant species were orchids with 368 species and composites with 231.

### Introduced species in fibre used in nursery industry

Biosecurity NZ has new information, including pictures, on their web page on introduced species found in imported coco-peat fibre used in the nursery industry

[www.biosecurity.govt.nz/regs/imports/plants/coco-peat](http://www.biosecurity.govt.nz/regs/imports/plants/coco-peat)

### New U.S. journal on invasive plants

*Invasive Plant Science and Management* is a new journal to be published in the USA. It will be of particular interest to those working on invasive species as opposed to weeds in crops.

[www.plantmanagementnetwork.org/pub/cm/news/2008/WSSAJournal/](http://www.plantmanagementnetwork.org/pub/cm/news/2008/WSSAJournal/)

### Tasmania's big trees

A website devoted to the Giant Trees of Tasmania. To qualify a tree must be at least 85 metres tall or 280 cubic metres in volume. There are currently 75 trees from five different species on the register. There are also links to the *Tasforests* journal with its latest issues downloadable as a pdf. Tony Bean brought this website to our attention.

[www.gianttrees.com.au/index.html](http://www.gianttrees.com.au/index.html)

### Maintaining an online publications list

Want to maintain your own individual academic publications list online. Then this site with free hosting may be for you.

<http://publicationslist.org>

### Georgiana Molloy blog

As well as finding out that Rica Erickson has a website devoted to her life (see p. 18) there is also a Georgiana Molloy web site. But this one is a bit different as Georgiana is apparently to be the subject of the "first broadband interactive documentary made in Western Australia" and "dramatic webisodes" are promised.

[www.georgianamolloy.com.au/home.htm](http://www.georgianamolloy.com.au/home.htm)

## Atlas of Living Australia website launched

The *Atlas of Living Australia* (ALA) has launched its web site and its first newsletter. At present the site is mostly information about the project and its participant organisations. The goal of the project is to develop web-based tools to enable users to access the widest possible range of information resources relating to Australia's fauna and flora. Discussions on the planning and implementation of the project will appear on the site and there is a presentation giving some of the planned project outcomes.

Web site: [www.ala.org.au/](http://www.ala.org.au/)

## World Register of Marine Species

Another world register with many algae listed. The following summary comes from its web site.

The aim of a *World Register of Marine Species* (WoRMS) is to provide an authoritative and comprehensive list of names of marine organisms, including information on synonymy. Rather than building a new register, this database is a combination of already existing registers. The content of WoRMS is controlled by taxonomic experts; each taxonomic group is represented by an expert who has the authority over the content, and is responsible to control the quality of the information. Each of these main taxonomic editors can invite several specialists of smaller groups within their area of responsibility. Its aim is to aid data management, rather than suggest any taxonomic or phylogenetic opinion on species relationships.

Web site: [www.marinespecies.org/](http://www.marinespecies.org/)

## Plants, animals and fungi of James Cook University

Betsy Jackes has drawn attention to the recently launched James Cook University website, Discover Nature at JCU. This site covers the plants and animals on the two main campuses of the university, as well as weeds of the region and has information on all of field research sites (including the Australian Canopy Crane Facility referred to in one of the Whiffin photos). Links to research being carried out at the university include some fascinating work on *Acacia peuce*.

<http://cms.jcu.edu.au/discovernature/index.htm>

## Systematics journals go on-line

*Kew Bulletin*

All articles in the first volume to go online are freely downloadable.

[www.springerlink.com/home/main.mpx](http://www.springerlink.com/home/main.mpx)

*Economic Botany*, *Brittonia* and *Botanical Review*

These three New York Botanic Gardens publications are all now on-line and there is the opportunity for free access for 30 days:

*Botanical Review*: [www.springer.com/life+sci/plant+sciences/journal/12229](http://www.springer.com/life+sci/plant+sciences/journal/12229)

*Brittonia*: [www.springer.com/life+sci/plant+sciences/journal/12228](http://www.springer.com/life+sci/plant+sciences/journal/12228)

*Economic Botany*: [www.springer.com/life+sci/plant+sciences/journal/12231](http://www.springer.com/life+sci/plant+sciences/journal/12231)

*Nordic Journal of Botany*

There is free access to the current issue and all back issues have been digitised

[www.blackwell-synergy.com/loi/NJB](http://www.blackwell-synergy.com/loi/NJB)

## AUSTRALIAN BIOLOGICAL RESOURCES STUDY (ABRS) GRANTS

Potential changes to the ABRS grants program have been placed on hold for the short term and the grants program will be advertised as usual in August.

However ABRS has decided to press forward with some changes. In summary these are:

- standard grant amounts
- a strong focus in 2009-10 on tropical marine reef taxonomy thanks to a substantial C-Reefs co-funding opportunity
- a significant requirement for cash co-funding
- new research priorities derived from the National Taxonomy Forum

Further details on these changes will be available on the ABRS website when the grants are advertised in late August or September.

Grantees should also note that these changes will mean changes to the application form and guidelines and potential grantees should take care to note the new priorities and update the forms they are using when the grants are advertised (the forms will be updated at the same time).

Cameron Slatyer  
Director, Australian Biological Resources Study  
[cameron.slatyer@environment.gov.au](mailto:cameron.slatyer@environment.gov.au)



## Chapter Conveners

### Adelaide

Robyn Barker  
State Herbarium of South Australia  
Dept for Environment & Heritage  
P.O. Box 2732  
Kent Town, SA 5071  
Email: barker.robbyn@saugov.sa.gov.au  
Tel: (08) 8222 9348

### Armidale

Jeremy Bruhl  
Department of Botany  
University of New England  
Armidale, NSW 2351  
Tel: (02) 6773 2429

### Brisbane

Laurie Jessup  
Queensland Herbarium  
Mt Cootth Road  
Toowong, Qld 4066  
Email: laurie.jessup@epa.qld.gov.au  
Tel: (07) 3896 9320

### Canberra

Vacant

### Cairns

Mark Harrington  
James Cook University  
Cairns, Qld  
Further details to come

### Darwin

Philip Short  
Northern Territory Herbarium  
Parks & Wildlife Commission of the NT  
PO Box 496  
Palmerston, NT 0831  
Tel: (08) 8999 4512

### Hobart

Marco Duretto  
Tasmanian Herbarium  
Private Bag 4  
Hobart, Tasmania 7001  
Email: marco.duretto@tmag.tas.gov.au  
Tel: (03) 6226 1806

### Melbourne

Frank Udovicic  
Royal Botanic Gardens Melbourne  
Birdwood Avenue, South Yarra Vic 3141  
Email: frank.udovicic@rbg.vic.gov.au/Tel: (03) 9252 2313

### Perth

Kristina Lemson  
Plant Systematics and Conservation  
Centre for Ecosystem Management and  
School of Natural Sciences  
Edith Cowan University, Joondalup WA 6027  
Email: k.lemson@ecu.edu.au / Tel: (08) 6304 5369

### Sydney

Hannah McPherson  
National Herbarium of NSW  
Mrs Macquaries Road  
Sydney, NSW 2000  
Tel: (02) 9231 8111

## Contacting Major Australian Herbaria and Systematics Institutions

From outside Australia: add the country code 61 and omit the leading zero of the area code

AD tel: (08) 8222 9307 fax: (08) 8222 9353 www.flora.sa.gov.au	HO tel: (03) 6226 2635 fax: (03) 6226 7865 www.tmag.tas.gov.au/Herbarium/ Herbarium2.htm	MEL tel: (03) 9252 2300 fax: (03) 9252 2350 www.rbg.vic.gov.au/ biodiversity/	NSW tel: (02) 9231 8111 fax: (02) 9251 7231 www.rbg.vic.gov.au/conservation _research/herbarium_&_services
CANB tel: (02) 6246 5108 fax: (02) 6246 5249 www.anbg.gov.au/	BRI tel: (07) 3896 9321 fax: (07) 3896 9624 www.epa.qld.gov.au/herbarium	DNA tel: (08) 8999 4516 fax: (08) 8999 4527 www.nt.gov.au/pwcnt	PERTH tel: (08) 9334 0500 fax: (08) 9334 0515 http://science.calm.wa.gov.au/ herbarium/
QRS tel: (07) 4091 8800 fax: (07) 4091 8888	MBA tel: (07) 4048 4745/4743 fax: (07) 4092 3593	NT tel: (08) 8951 8791 fax: (08) 8951 8790	<i>Australian University Herbaria</i> Contact CHAH representative: Murray Henwood, University of Sydney
<i>Council of Heads of Australian Herbaria (CHAH)</i> Chair: Dr Brett Summerell (NSW) brett.summerell@rbgsyd.nsw.gov.au or www.chah.gov.au/	ABRS tel: (02) 6250 9554 fax: (02) 6250 9555 email: abrs@environment.gov.au www.environment.gov.au/ biodiversity/abrs/	<i>Australian Botanical Liaison Officer (ABLO)</i> Jeremy Bruhl Herbarium Royal Botanic Gardens, Kew Richmond, Surrey TW9 3AB England tel: 44-20-8332 5270 fax: 44-20-8332 5278 email: ablo@rbgkew.org.uk	

These listings are published in each issue. Please inform the Editors of any change

## ASBS Publications

### **History of Systematic Botany in Australia**

Edited by P.S. Short. A4, case bound, 326pp. ASBS, 1990. \$10; plus \$10 p. & p.

For all those people interested in the 1988 ASBS symposium in Melbourne, here are the proceedings. It is a very nicely presented volume, containing 36 papers on: the botanical exploration of our region; the role of horticulturists, collectors and artists in the early documentation of the flora; the renowned (Mueller, Cunningham), and those whose contribution is sometimes overlooked (Buchanan, Wilhelmi).

### **Systematic Status of Large Flowering Plant Genera**

*Austral.Syst.Bot.Soc.Nsltr* 53, edited by Helen Hewson. 1987. \$5 + \$1.10 postage.

This Newsletter issue includes the reports from the February 1986 Boden Conference on the "Systematic Status of Large Flowering Plant Genera". The reports cover: the genus concept; the role of cladistics in generic delimitation; geographic range and the genus concepts; the value of chemical characters, pollination syndromes, and breeding systems as generic determinants; and generic concepts in the Asteraceae, Chenopodiaceae, Epacridaceae, *Cassia*, *Acacia*, and *Eucalyptus*.

### **Australian Systematic Botany Society Newsletter**

Back issues of the Newsletter are available from from Number 27 (May 1981) onwards, excluding Numbers 29, 31, 60-62, 66, 84, 89, 90, 99, 100 and 103. Here is the chance to complete your set. Cover prices are \$3.50 (Numbers 27-59, excluding Number 53) and \$5.00 (Number 53, and 60 onwards). Postage \$1.10 per issue, apart from \$1.75 for the Large Genera issue (Number 53).

### **Evolution of the Flora and Fauna of Arid Australia**

Edited by W.R. Barker & P.J.M. Greenslade. Peacock Publications, ASBS & ANZAAS, 1982.  
\$20 + \$8.50 postage.

This collection of more than 40 papers will interest all people concerned with Australia's dry inland, or the evolutionary history of its flora and fauna. It is of value to those studying both arid lands and evolution in general. Six sections cover: ecological and historical background; ecological and reproductive adaptations in plants; vertebrate animals; invertebrate animals; individual plant groups; and concluding remarks.

Also available from. Peacock Publications, 38 Sydenham Road, Norwood, SA 5069, Australia.  
(To obtain this discounted price, post a photocopy of this page with remittance).

### **Ecology of the Southern Conifers** (Now out of print)

Edited by Neal Enright and Robert Hill.

ASBS members: \$60 plus \$12 p&p non-members \$79.95.

Proceedings of a symposium at the ASBS conference in Hobart in 1993. Twenty-eight scholars from across the hemisphere examine the history and ecology of the southern conifers, and emphasise their importance in understanding the evolution and ecological dynamics of southern vegetation.

---

**Postage rates:** Those quoted apply only within Australia. Please e-mail for prices to other locations.

Send **orders and remittances** (payable to "ASBS Inc.") to:

Helen Thompson  
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ABRS  
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Canberra, ACT 2601, Australia

Or fax credit card details to:

Helen Thompson  
Fax: 02 6250 9448

**Contact details.** Email: [helen.thompson@environment.gov.au](mailto:helen.thompson@environment.gov.au) . Ph. 02 6250 9445. Fax. 02 6250 9448

AUSTRALIAN SYSTEMATIC BOTANY SOCIETY INCORPORATED

**The Society**

The *Australian Systematic Botany Society* is an incorporated association of over 300 people with professional or amateur interest in botany. The aim of the Society is to promote the study of plant systematics.

**Membership**

Membership is open to all those interested in plant systematics. Membership entitles the member to attend general meetings and chapter meetings, and to receive the *Newsletter*. Any person may apply for membership by filling in a "*Membership Application*" form, available on the Society website, and forwarding it, with the appropriate subscription, to the Treasurer. Subscriptions become due on January 1 each year.

The ASBS *annual membership subscription* is \$45(Aust.); full-time students \$25. Payment may be by credit card or by cheques made out to *Australian Systematic Botany Society Inc.*, and remitted to the Treasurer. All changes of address should be sent directly to the Treasurer as well.

**The Newsletter**

The *Newsletter* is sent quarterly to members and appears simultaneously on the ASBS Web site. It keeps members informed of Society events and news, and provides a vehicle for debate and discussion. In addition, original articles, notes and letters (not exceeding ten published pages in length) will be considered.

*Citation:* abbreviate as *Austral. Syst. Bot. Soc. Nsltr*

**Contributions**

Send to the Editors at the address given below. They *preferably* should be submitted as: (1) an MS-DOS file in the form of a text file (.txt extension), (2) an MS-Word.doc file, (3) a Rich-text-format or .rtf file in an email message or attachment or on an MS-DOS disk or CD-ROM. *Non-preferred* media such as handwritten or typescripts by letter or fax are acceptable, but may cause delay in publication in view of the extra workload involved.

*Formatting of submitted copy.* Please use Word in formatting indents, bullets, etc. in paragraphs and for tables. Do not format primitively with tabs, which change with the Normal style sheet. If embedding tables or references or other Objects from other software (Excel, bibliographic software, etc.) ensure that these are converted to Word tables or paragraphs. Letters in abbreviations of Australian States (SA, WA etc., but Vic.) and organisations (e.g. ASBS, ABRIS) should not be separated by full-stops, but initials should be (e.g. W.R. Smith, not WR Smith).

*Images:* their inclusion may depend on space being available. Improve scanned resolution if printing your image is pixellated at a width of at least 7 cm (up to a 15 cm full page). Contact the Editors for further clarification.

The *deadline* for contributions is the last day of February, May, August and November. All items incorporated in the *Newsletter* will be duly acknowledged. Any unsigned articles are attributable to the Editors.

Authors alone are responsible for the views expressed, and statements made by the authors do not necessarily represent the views of the *Australian Systematic Botany Society Inc.* Newsletter items should not be reproduced without the permission of the author of the material.

**Advertising**

*Advertising space* is available for products or services of interest to ASBS members. The current fee is \$100 per full page, \$50 per half-page or less.

*Flyers* may be approved for inclusion in the envelope for products or services of interest to ASBS members. The current fee is \$100 per flyer, plus the cost of inserting them (usually roughly \$25-30). Flyers are not part of the *Newsletter* and do not appear with the *Newsletter* on the ASBS Web site.

A 20% discount applies for second and subsequent entries of the same advertisement. Advertisements from ASBS members are usually exempt from fees but not the insertion costs in the case of a flier. Contact the Newsletter Editors for further information.

**Editors**

Robyn Barker  
State Herbarium of South Australia  
Dept for Environment & Heritage  
Hackney Rd, Adelaide SA 5000  
tel: (08) 8222 9348  
fax: (08) 8222 9353  
email: Barker.Robyn@saugov.sa.gov.au

W.R.(Bill) Barker  
State Herbarium of South Australia  
Dept for Environment & Heritage  
Hackney Rd, Adelaide SA 5000  
tel: (08) 8222 9303  
fax: (08) 8222 9353  
email: Barker.Bill@saugov.sa.gov.au

Jenny Barker  
CRC for Australian Weed Management  
PMB 1, Waite Campus  
Glen Osmond SA 5064  
tel. (08) 8303 7250  
fax: (08) 8303 7311  
email: jennifer.barker@adelaide.edu.au

**Please address correspondence to Robyn Barker**

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